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ABSTRACT

Papers in this journal issue were drawn from the proceedings of the 1984 conference of the Western College Reading and Learning Association, as well as articles submitted for juried selection, and focus on reading, learning assistance, developmental education, and tutorial services at the college level. Papers are divided into sections for conference addresses, investigations and evaluations, and prescriptions and descriptions. Topics of the papers include the following: (1) the impact of the 1980s on developmental education; (2) the role of essential skills programs in quality education; (3) learning center assessment; (4) assessment, advising, and early warning as strategies for improving retention; (5) microcomputer instruction in developmental education; (6) three major tests for assessment and placement in language arts courses; (7) exploring learning styles of minority students; (8) an interdisciplinary approach to skills strengthening; (9) learning materials, technology, and resources for disabled college students and adults; (10) a five-at-a-time vocabulary method for use with or without computers; (11) enhancing what the reader brings to the page; (12) a Piagetian theory for improving college reading abilities; (13) tips for skills center interviewers; (14) the deep structure of study skills instruction; and (15) journal writing as a metacognitive strategy. (HTH)

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PREFACE

Volume XVII of *The Journal of College Reading and Learning* contains articles presented at the Western College Reading and Learning Association conference in San Jose, California, in March, 1984. Along with the papers of dedicated teachers and researchers, we are especially pleased to publish the text of the keynote speech given by Dr. K. Patricia Cross on the viable role of developmental education in the future. This speech is already being quoted throughout higher education, and we are honored to have provided a forum for its presentation. We are also including, for the first time, articles not presented at the conference, but submitted for juried selection. We welcome articles on topics of concern to the WCRLA membership. For publication information, write in care of the *JCRL* Editor to the address in the back of this volume.

Delryn R. Fleming, Editor

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THE IMPACT OF THE 1980s ON DEVELOPMENTAL EDUCATION

by

K. Patricia Cross

Harvard Graduate School of Education

When Carol Bogue approached me almost a year ago inviting me to address your general conference theme, "Coming of Age in the 1980s," I suggested that I would like to speak to that theme by looking at trends and changes in the broader society that would have an impact on developmental education in this decade. I then hoped that within a year, it would become clear to me what those influences were likely to be. As it happened, I didn't have long to wait for the feathers to hit the fan.

It was just about this time last year that the National Commission on Excellence on Education managed a direct hit on the nerve center of discontent with schooling in America with its quotable language about "a nation at risk" and "the rising tide of mediocrity." It now seems clear that the major forces that will shape developmental education in the short-term future will arise out of the educational reform movement that has been gathering reports and momentum all year.

At last count, there were more than 30 books, studies, and commission reports, and in addition the 50 states had appointed a total of 175 task forces charged with improving the quality of education. That averages out to more than three task forces per state and about two national reports per month. For better or for worse, that amount of directed energy is going to have an impact on virtually all forms of education, but especially on the types of programs that are the focus of your professional interest. The educational reform movement is basically concerned about increasing the academic competence of students in reading, writing, mathematics, computer literacy, and anything else judged to be an essential learning skill. So let us turn our attention in this session of your diverse and interesting convention program to the points of overlap between the recent national emphasis on educational improvement and your concerns about helping individuals to improve their learning skills.

At one extreme, we could entertain the thought that if the school reform movement were really successful, there would be no need for developmental education at the college level. All children coming through the school system would be adequately prepared and appropriately motivated for college-level study. This wildly optimistic possibility, however, takes no note of the fact that half of all college students today are over the age of twenty-two. Moreover it was not until the 1950s that a majority of the population remained in school long enough to complete high school. Thus, if one wants to indulge in the popular nostalgia for the "good old days" when students learned their lessons in schools, we must also acknowledge that many people, including most minorities, had little opportunity to learn in the schools of the 1950s. So there are generation gaps that must continue to be addressed by educators, even if students should begin to emerge from high school with the learning skills that are essential for college or other learning options.

At the other extreme of this hypothetical continuum about the impact of school reform on developmental education, there is the thought that if the present school reform campaign is successful, every educator at every level, grade school through college, is going to be concentrating on doing a better job of seeing that all students are well-equipped with the basic learning skills. In that event, the cluster of concerns that lie at heart of this professional association will lie at the heart of all professional education.

In any event, I think it likely that the school reform movement will strengthen the role and the clout of developmental educators. Your experience and your knowledge about how to work with underprepared learners should be a national resource for the educational reforms of the 1980s. Most of the commissions would have benefited from the insights of professionals with experience in the fields they were trying to address, but at least the discussions and debates that are taking place throughout the country now are open and lively, and I am delighted to have this opportunity to think with you about the directions of the 1980s reforms and their probable impact on the philosophy and practice of education directed toward the development of lifelong learning skills.

Incidentally, I am going to use the phrase *learning skills* or *lifelong learning skills* to refer to those cognitive skills and attitudes that permit people to continue to learn new things whether they are 8 year olds learning to spell, 18 years olds struggling with college chemistry, 40 year olds faced with the challenge of computer literacy, or 50 year olds interested in the study of American literature. The euphemisms that we have invented over the past several decades for talking about people who are ill-prepared for learning whatever they need or want to learn seem to change with the seasons, and they certainly impede our conversations about common concerns. Whether you operate a learning assistance center, a developmental reading program, a remedial math lab, or some other learning assistance program, I would like to consider the future of our common concerns in the context of the current reform movement.

I am not going to spend a lot of time on the symptoms of malaise in American public education. Almost everyone agrees that the general health of education in America is not what it should be. Different publics, however, respond to different indicators. Perhaps the most convincing symptom to the general public is the decline of test scores. That symptom has been reported in both the popular and professional press for more than 15 years now. In 1975, the College Board and Educational Testing Service began exhaustive studies about the probable causes of the decline. The answers implicated a wide variety of culprits, ranging from the demographics of the birth rate to social unrest to efforts to educate a wider spectrum of the population. But much of the problem was laid at the doorstep of the schools -- not enough homework, too many nonacademic courses, lowered expectations, not enough emphasis on writing, etc. (College Board, 1977).

For businessmen, the symptom of school failure lies in the loss of productivity of the American labor force. While no one suggested that schools alone are responsibile for everything from the loss of the competitive edge of America to the negative balance of trade, there is a feeling that American workers are not doing their jobs, and that at least part of this is due to the fact that students and teachers are not doing their jobs in the schools.

For teachers at any level, the evidence of educational malaise is to be found in the deplorable skills of their incoming students. Teachers complain that colleges don't get good students from the high schools, who don't get good students from the elementary schools, who don't get good teachers from colleges and graduate schools.

To continue the medical analogy about the health of the schools, no one who has examined the patient has suggested that the symptoms are not real or that the cure is as simple as two aspirins and bed rest. But anyone seeking a second opinion on the severity of the illness is likely to get it -- and a third, fourth, and fifth opinion, as well. There really isn't much agreement on whether American education has a cold, the flu, or pneumonia.

Even those who have spent many months in the field examining the patient aren't sure how serious the situation is. John Goodlad warns that, "It is possible that our entire public education system is nearing collapse" (1983, p. 1), while Ernie Boyer finds that the schools are beginning to improve, with the top 10 to 15 per cent providing perhaps the finest education in the world (1983, p. 38). Overall, however, Boyer concludes that schools are, "like the communities that surround them -- surviving but not thriving" (p. 38). Perhaps the point of greatest agreement is that it depends very much on which school you are talking about. Some are very good indeed; some are terrible; and most are mediocre.

John Goodlad is especially insistent that no single set of judgments or recommendations can reasonably apply to all schools (p. xvii). But most of the reports conclude with sweeping and amazingly specific recommendations for treatment. A few are supremely self-confident that their treatment will result in quick and complete recovery. The authors of *A Nation at Risk*, for example, assert that if their recommendations are implemented over the next several years, they will "promise lasting reform" (1983, p. 23). Historians may doubt the prognosis of "lasting reform," but there is reasonable agreement on the general direction the reform should take in the 1980s.

I am not going to discuss the recommendations in detail. One of the more absorbing tasks in education these days is making charts of the various recommendations and then making summaries of summaries. There are so many reports out now and so many commentaries and analyses that practically every wise and foolish thing that can be said about the schools has been said. For that reason I am going to avoid commenting on recommendations that have already gained high visibility, and I am also not going to dwell on the admittedly difficult issues of how we are going to pay for all this or the proper role for the Federal government. Instead, I am going to concentrate on the possible negative side effects of relatively popular recommendations on which there is enough agreement that there is a chance for implementation.

Many of the reports attribute the erosion of quality in education to the permissiveness of the 1960s and 70s and reason that the solution is to swing the pendulum in the opposite direction, toward more control, more requirements, and tougher standards. These prescriptions call for simple corrections of perceived excesses of the past. Not enough homework? --assign more. Not enough testing? --require more. Too many electives? --insist on more requirements. These undimensional corrections might be labeled the swinging pendulum solution. A pendulum is in constant motion, but it never goes anywhere. It simply swings from one extreme to the other. Indeed, the momentum gained from a swing to the left provides the energy for the swing to the right.

Those of you who work with underprepared students know that doing more of what has not worked for these students in the past is not the route to success. As one observer of the current mania for legislating standards observed, "If the kid can't high jump 4', it does no good to raise the bar to 4'8"." What then should we do? Specify clear objectives? Yes. Make a careful analysis of individual learning problems? Of course. Establish realistic expectations and high standards of performance? Certainly. Conduct frequent evaluation and provide immediate feedback? Surely. These are strategies based on an analysis of the problem; they are not simple pendulum swings applied with relentless uniformity to the entire student population. If we are not more thoughtful about the goal of quality and how to attain it, we will spend the 1980s correcting for the permissiveness of the 1960s and 1970s, and we will spend the 1990s correcting for the overregulation of the 1980s. We might, I suppose, recommend more modest corrections, but that would simply slow down the pendulum, eventually stopping all movement.

We know more about the characteristics of effective schools than swinging pendulum solutions suggest, and it is a disservice to imply that our options are limited to strategies that seemed to work in different times with different student populations. We know, for example, that effective schools are distinguished by some of the same characteristics that distinguish effective developmental programs: clear priorities about what must be learned, high expectations for students, uninterrupted time on task, positive discipline and support from the top.

Unfortunately for those interested in gaining credibility as people of action, these qualities cannot be legislated as can the currently popular quantifiable reforms such as more time in school, more pay for teachers, more requirements, and more tests. Effective reform must be achieved by slower, more complex actions built up through community pressure, faculty commitment, and support from the President and the Board.

In addition to more thoughtful analyses and greater patience we need some fresh perspectives and perhaps some new metaphors. The spiral staircase is a more apt metaphor for school reform than the swinging pendulum. Whereas the swinging pendulum involves retracing old ground, the spiral staircase rises to new levels. We may circle back to look at old problems from new perspectives, but our motion is constantly upward to a higher plane of action. Schools of the 1980s are operating in a different plane from those of the 1960s, and we need to find some new perspectives if we are to avoid educational faddism and swinging pendulum solutions.

One such perspective is offered in the best-selling book, *In Search of Excellence* (Peters & Waterman, 1982), in which the authors describe the most successful corporations in America. Ironically, the conclusions about the environments which stimulate excellence in corporate America are frequently the opposite of what is recommended for excellence in our schools, but I found that the factors contributing to corporate excellence have much in common with what we think we have learned over the past decade or so about effective learning environments for underprepared learners.

When Peters and Waterman set out to look for corporate excellence, they found it at both IBM and MacDonald's -- in the production of the lowly hamburger as well as in the glamour of high tech. Their criteria for excellence seemed not to reside in the prestige of the thing produced, but rather in the attitude and enthusiasm of the workers. They concluded that one of the main clues to corporate excellence lay in "unusual effort on the part of apparently ordinary employees" (p. xvii). There is a lot to think about in that deceptively simple conclusion, and developmental educators are constantly concerned about how to motivate ordinary people. Are there recommendations in the 1980s educational reforms that will stimulate "apparently ordinary" people to unusual effort?

In the first place, there is surprisingly little attention given to "ordinary people" in the school reform reports. There is the clear implication that the rising tide of mediocrity is made up of embarrassing numbers of ordinary people, and if we want to return excellence to education, we better go out and find more excellent people. Teachers colleges are advised to select better candidates; colleges are encouraged to raise admissions standards; and the Federal government is urged to offer scholarships to attract top high school graduates into teaching. There is not a lot said in the education reports about how to stimulate unusual effort on the part of the ordinary people that we seem to be faced with in the schools and in most colleges.

"Excellent companies," say Peters and Waterman, "require and demand extraordinary performance from the average man" (p. xxii). Since the tips for getting such extraordinary performance are scattered throughout their book, let me select a few of them and measure them against the recommendations of the 1980s educational reforms.

One important suggestion from the corporate world for stimulating unusual effort on the part of ordinary people is to make people members of winning teams while also recognizing each individual as a star in his or her own right. Peters and Waterman found that excellent companies, "turn the *average* Joe and the *average* Jane into winners" (p. 2[illegible]), emphasis added). That is a bit more difficult, it seems, than recognizing winners. The tough problem is not in identifying winners; it is in *making* winners out of ordinary people. That, after all, is the overwhelming purpose of education. Yet historically, in most of the periods emphasizing excellence, education has reverted to selecting winners rather than creating them.

In any era, colleges that are able to select winners among both students and faculty, are most likely to be perceived as quality institutions. Although "value added" is a sound educational concept and the ultimate educational challenge, it has not often been pursued with any vigor in education. Community colleges are frequently considered lower quality educational institutions than research universities, not on the basis of comparing the "value added" to their graduating classes, but by comparing the selectivity exercised in admitting their entering classes.

Peters and Waterman insist that there is no reason why organizations cannot design systems to support and create winners. Most excellent companies, they say, build systems "to reinforce degrees of winning rather than degrees of losing" (p. 57).

At IBM, for example, sales quotas are set so that 70-80 percent of its sales people meet their quotas. At a less successful company, only 40 percent of the sales force meets its quota during a typical year. "With this approach," say the researchers, "at least 60 percent of the sales people think of themselves as losers. They resent it and that leads to dysfunctional, unpredictable, frenetic behavior. Label a man a loser and he'll start acting like one"(p. 57). Of all of the data that I have collected on open-admissions students in community colleges, none were more distressing than those showing students' perceptions of themselves as losers in the educational race (Cross, 1971).

There is much in the present educational reform movement that should frighten us if, in fact, winning is more important for ordinary people. The investigators on corporate excellence observed that less-than-excellent organizations take a negative view of their workers. "They verbally berate participants for poor performance ... They want innovation but kill the spirit of the champion ... They design systems that seem calculated to tear down their workers' self-image" (p. 57).

That sounds a lot like what we are doing in the educational reform movement of the 1980s. We are telling teachers that they are a sorry lot, scoring lower on the SAT than their fellow students in college. We are proclaiming that the deplorable state of the schools is an embarrassment to us internationally and a risk to our nation. We are telling students that they are losers and threatening them with loss of further educational opportunity if they don't shape up. It is very hard to feel like a winner anywhere in the educational system today. But, the critics will object, how can you improve the educational system if you don't face the facts? Fair question.

The "facts" seem to be that there are some excellent schools out there, that there are some exceptional teachers, that we do know something about making teaching and learning more effective, that high expectations are important to performance, and that financial support is absolutely essential. We also know that test scores have been falling, that expectations for students are not high enough to demand their best performance, and that until students experience success as a result of their own efforts, it will be hard for them to feel like winners. Even very young children know when they are learning and when they are not. It does no good to tell students of any age that they are doing fine if they are not. Thus, learning tasks must be realistic, and every student must have an opportunity to succeed at a learning task that is important. It is not an easy task, and throughout history it has been made ever more difficult by the growing diversity of our student populations.

In some two decades of trying to find answers to the question of how to provide education for all the people, I have reached the conclusion that it is our commitment to the lock-step time-defined structures of education that stand in the way of lasting progress (Cross, 1976). It is simply unrealistic to think that all students can learn the same material, to the same standards of performance, in the same amount of time, taught by the same method. We continue to talk about individual differences. We know they exist; we have reliable measures of them. We even cherish them, but we fail to provide for them in our educational systems. Most experiments in individualization are soon abandoned because they require too much work on the part of teachers who are faced with individualizing instruction *in addition to* their obligation to handle all of their traditional tasks.

Strangely enough our solution has never been to change the system to accommodate individual talents. Rather it has been to try in some way to reduce the diversity -- through selection, through narrowing curricular choices, and through proclaiming that we expect too much of our schools and that they must be allowed to get back to basics.

Those are the familiar planks in the platforms of the school reform movement of the 1980s. Many people are searching for ways to rid the school of problem learners, to reduce the obligations of the schools, and to restrict the curricular options.

There are serious proposals to deny the losers in the educational race a high school diploma or entrance to a community college. There is not much doubt that the easiest way for an educational institution to raise its own quality is to get rid of problem learners. Don't accept them and don't certify them. Test scores will rise, faculty morale will improve, and the institution will be perceived as a quality place for serious learning.

The problem is that the society that supports this superficially excellent educational institution now has on its hands the educational rejects. Whose responsibility is it to convert them from a drag on society to productive members of that society? The chances are high that an illiterate mother or father in this generation will produce three or four more problem learners in the next generation. Clearly, we cannot afford to "improve" educational institutions at the expense of society. But it is distressing to see how many well-meaning but short-sighted legislators and educators are taking advantage of the current mandates for excellence by supporting proposals that can have the effect of eliminating from local high schools and colleges the very students who need their services most. Some years ago, one wag devised this motto for Admiral Rickover's elitist recommendations: "Save the best; shoot the rest".

Selection is the easy route to qualify -- but it is a swinging pendulum solution that fails to address the underlying problems with curriculum, instruction, and teacher training. For better or for worse, our schools have to be concerned with maximizing the performance of "ordinary people."

One of the perennial problems with universal education is the diversity in achievement that it brings into the average classroom. Many of the reports call for a core curriculum, frequently on the grounds that it will abolish the evils of tracking. The common core curriculum, however, without provisions for individualization, will simply replace parallel tracks with vertical ones. Instead of lower achieving students being shunted into vocational or general education curricula, they will occupy the lowest ranks of the academic core curriculum. There is ample research evidence to show that students who start school in the bottom third of the class will remain there throughout their dreary journey through the American school system (Cross, 1971).

Although I am convinced along with Ben Bloom, Jerome Bruner, and others that almost any child can learn the basic school curriculum, given enough time and appropriate help, I am not convinced that the core curriculum imposed on existing time-bound structures will abolish the evils of tracking. Why do we think that a D student in the academic curriculum has more life choices than an A student in the vocational curriculum?

As to the recommendations that schools should get back to defining their educational mission, there is always the assumption that the mission is to provide for the cognitive development of students. No one can quarrel with that. What some people are wondering is what organizations in our society should assume responsibility for moral development, common courtesy, civility, and yes, even driver training. The choice seems to be between adding these so-called frills to the schools or ignoring them in the hope that churches, families, and community agencies will reorganize and reassert themselves to deal with them. The inevitable result, I should think, is the swinging pendulum. Schools restrict their responsibilities to intellectual and cognitive tasks until society feels that citizenship and morality need attention, and then there is no place to turn except to the schools.

I believe that we must begin to question whether the ancient structures of education can cope with the diversity that is inherent in universal education. We need structures that are built, not only on the acceptance of individual differences, but on explicit recognition of their value to our society. To use Alvin Toffler's phrase, it is time to de-massify education.

A significant aspect of Alvin Toffler's *Third Wave* (1980), you will remember, is the customization of products and services. Whereas the industrial revolution of the Second Wave emphasized mass production, the arrival of the Third Wave makes possible customized production. In the manufacture of clothing, for example, Second Wave production methods required the worker to place one layer of cloth on top of another, lay the pattern on top, and then with an electric cutting knife cut out the pattern and produce multiple identical cutouts of the cloth. These were then subjected to common processing and came out identical in size, shape, and color to be purchased by the masses at reasonable prices "off the rack".

The Third Wave laser machine operates on a radically different principle. Laser machines can be programmed to fill an order for one garment economically, and soon, according to Toffler, it may be possible "to read one's measurements into a telephone, or point a video camera at oneself, thus feeding data directly into a computer, which in turn will instruct the machine to produce a single garment, cut exactly to one's personal, individualized dimensions." (Toffler, 1980, p. 184).

De-massification is also occurring in the mass media. The mass messages that were a product of Second Wave communications are giving way now to highly specialized media audiences. There are, for example, magazines which cater to populations as diverse as antique collectors, joggers, car buffs, and people in the million dollar housing market. Radio stations specialize, not just in music, but in hard rock, soft rock, punk rock, country rock or folk rock. In the Boston area, a new cable TV station announced its intention last week to specialize in "neighborhood news," and newspapers are doing the same thing. A tabloid newspaper is customized to provide news and advertisements targeted to each separate suburb of the metropolitan Boston area. The *Cambridge Tab* has some items in common with the *Newton Tab*, but apparently the publisher thinks it makes good economic sense to publish customized versions for each community.

Although instructional programs appear generally oblivious to the potential power of the computer to custom-design education, we are already beginning to customize testing. Second Wave testing called for identical machine-scorable answer sheets, batched by the thousands, and scored by the overlay of common patterns of right answers. Third Wave testing calls for branching, customization, and diagnosis of individual learning problems. Student personnel work too has become more customized and more individualized. There are more special interest clubs and groups custom-designed to serve special needs populations, such as reentry women, parents without partners, Black student organizations, and the like. At the same time, computerized guidance systems are providing individualized career-guidance services that would be impossible without interactive computer programs. Despite such changes before our very eyes, most of the school reform recommendations of the 1980s propose Second Wave solutions in a Third Wave world. They suggest re-massifying rather than de-massifying education.

Of all of the teachers who work in schools and colleges, I find that those who have or create the opportunity to work with individual students are the least likely to be persuaded that sweeping curricular reforms will return excellence to the schools.

There is, however, one curricular reform that we must begin to deal with immediately. It appears that educators do not know how to handle the information explosion. Mike O'Keefe (1984) presented a compelling picture last week at professional meetings in Chicago of the impact of the information explosion on high school physics. The standard textbook used in most high schools today is 610 pages long and contains sections on 42 separate subspecialties of physics including optics, mechanics, nuclear physics, thermodynamics, and all the rest, plus some sections on social responsibilities of scientists and contributions of women and ethnic minorities to science. Whenever a new subspecialty appears or new social concerns arise they are added to the textbooks. The result is a very superficial exposure to innumerable definitions and specialized vocabulary which are usually forgotten within a week. There is no time left for learning what young people growing up in the information society are going to have to know -- how to locate information when they need it, how to analyze, synthesize, interpret, and apply information. In short, today's students are going to have to learn how to learn. We need to develop the higher-level cognitive skills of putting words together to express ideas, of selecting from mountains of information that which is relevant, of analyzing arguments, and of synthesizing information from different sources. Until we can find room in the overcrowded curriculum for teaching people to live in our information-saturated society, education will be outdated almost as fast as it is learned. Between 6000 and 7000 scientific articles are produced each day, and information doubles every 5½ years. By the time the average physician completes his or her training, half of all the knowledge and skills acquired in medical school are obsolete.

How do we educate people to live in a world in which entire industries are created and wiped out in a single decade? The most important lessons that we can teach our children are the skills and the attitudes that will be required of lifelong learners. No education, no matter how brilliantly designed and delivered, will last a lifetime. The greatest handicap any adult can have in the 21st Century is a dislike of formal learning.

It is already clear that there is a growing gap between adults who have learned to enjoy learning and who use it to make their lives richer in every sense of that word, and those who dislike learning and are stuck in dead-end and even disappearing jobs. A college graduate today is seven times as likely to be engaged in some form of adult learning as a high school dropout, and the gap between the educational "haves" and "have-nots" is widening as the learning opportunities for adults increase. One thing that we know for sure from all of the research on adult learning is that it is the already well-educated who rush to take advantage of the new opportunities that are appearing; the poorly educated stay away in droves (Cross, 1981).

In conclusion, the most serious challenge to developmental educators is to prepare students for their futures as lifelong learners. The requirements will be fourfold: 1) to demonstrate to students that they are capable of learning and that it is a useful, satisfying skill that will serve them well throughout their lives, 2) to provide the cognitive skills that serve as the basic tools for lifelong learning, 3) to instill positive attitudes toward learning, and 4) to gradually put students in charge of their own learning so that they can make choices from among the multiple learning options that will face them as adults in the learning society.

On these requirements, the 1980s reforms are strong on only one of the four. They do want each student to master the basic learning skills. There is not, however, much attention given to creating atmospheres that stimulate enthusiasm for learning. We are approaching our task with grim determination, and there is little patience or interest in the slow learners who will almost certainly constitute one of our greatest social problems in the learning society that lies ahead.

Ted Sizer speaks most directly to the fourth requirement when he says, "A self-propelled learner is the goal of a school, and teachers should insist that students habitually learn on their own" (p. 216). That is a goal we have not seen mentioned in most of the reports. In fact, the general direction is quite the opposite. We are gradually creating more dependence on authorities to specify the learning tasks, control the options available, determine standards, and evaluate outcomes. If we are creating a generation of young learners who become increasingly dependent on others to define standards of acceptable learning, are we also thinking of the demands that will be created on the learning society, with millions of adults unprepared to assume responsibility for their own self-directed learning? We should, I suggest, start now to develop lifelong learners who are willing and eager to assume responsibility for their own continuous learning.

In order to do that, we must assure that students of all levels of ability develop the basic learning skills and the positive attitudes that will enable them to live productively and with a sense of personal satisfaction in the learning society. Since these are the fundamental goals of developmental education, it seems clear to me that developmental educators will have to rise to the challenge, and in so doing, will fulfill the theme of this 1984 conference, "Coming of Age in the 1980s."

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QUALITY EDUCATION AND THE ROLE OF ESSENTIAL SKILLS PROGRAMS

by
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After I agreed to speak at this conference, your president-elect, Carole Bogue, suggested that I might want to include a statement on the continued need for essential skills programs. I decided that my presentation should be very brief--a one-sentence statement:

> I encourage the Western College Reading and Learning Association to continue to be a leader in the efforts towards quality education, and, in the process of doing so, set a goal, and that the goal be that the Association will phase out itself.

The statement is not meant to be funny and I am not being facetious. I firmly believe that the goal is a desirable one, but how attainable it might be depends on the support, cooperation and work of many individuals and many institutions.

In the course of my career I have been asked to talk on such subjects as "The Chicano Experience," "Mexican American Cultural Changes," "Affirmative Action Programs," "Teaching Culturally Different Students" and "Cross Cultural Awareness." I have also been asked to participate on a number of panels on similar subjects, as well as on "Women in Education," and "Ethnic Studies Programs." I would like to see the day when we do not have to discuss subjects of this nature and the day when our society and our education have advanced to the degree that we will no longer have a need to institute special programs.

When I look at the letterhead of the Western College Reading and Learning Association, I see the following sub-headings: "Reading," "Learning Assistance," "Developmental Education," and "Tutorial Services." I see these sub-headings in the same light as I see those special programs that I have just mentioned--they are an indication and an admission that somewhere along the line, as human beings and especially as educators, we have been remiss, and that we are constantly trying to catch up and trying to make up for past failures. The day has to come when our educational systems are so effective that there will be no need for remedial programs at the college and university level. Please do not be alarmed. I am not proposing that we do away with you or your programs. Even if what I propose were to happen in education, there will always be a need for reading and learning specialists.

Until such a time as we resolve our educational problems and no longer have the need for special programs, there are some things that have to be done.

I think that you should continue doing what you have been doing, because you have been doing it well. I could not agree more with your president, Karen Smith, when she said in the fall *Newsletter*:

> The 1960's and 70's saw a revolution in higher education--the development of learning assistance centers and developmental education programs across this country in colleges and universities of all types, sizes, and purposes. The national call to, and demand for, equal rights and open admissions opened the doors of higher education to many who had been previously denied access. College administrators suddenly found themselves with new "awareness" and new "insight" into the academic skill levels and needs of their students. Thus, a movement was begun. Hundreds of us across the country responded to higher education's call for learning skills development programs for the unprepared, the underprepared, and the ill-prepared students who suddenly gained admission to "the hallowed halls." We dedicated ourselves to these students and immersed ourselves in our centers and labs in order to develop programs which could really make the difference academically for our students. And we did it!

I suggest that you also continue in your efforts to maintain and to gain additional support for the programs that you represent. Some of the topics presented at this conference speak to this: "Communication with Traditional Faculty," "Increasing Cooperation Between Learning Centers and Faculty/Administration," "The Challenge and the Reward of Gaining 'Respectability' for Developmental Programs," to name a few. Add to this the concern for survival, given shrinking resources. Karen Smith has also said in the fall *Newsletter:* "...We must strengthen our relationships with other programs and professionals on our campus, in our states, in our profession."

The most difficult problem that you, all of us, face and need to overcome is that of attitude. Some of the topics of this conference relate to this concern. Within our institutions some of the "regular" faculty look down on the staff in developmental programs. Sometimes within an institution there is a lack of cooperation and coordination within special programs. When resources decline, the relationship becomes even more strained. When enrollments are up, faculty do not want students in their classes who are in need of remediation. When enrollments are down, they will enroll anyone they can get. I do not have an answer on overcoming negative attitudes, except to ask you to stay with it and work even harder, because hard work produces positive outcomes and you have already proven that.

Educational reform is needed at all levels, but I have come to believe that it will not occur simultaneously at the elementary, secondary and the college and university levels. I have concluded that reform must begin at the university in general and specifically in the schools of education.

The first area of reform has to be that of general education. Clark Kerr has been conducting research on presidential leadership. In a recent talk in San Francisco, *California Higher Education* quoted him as saying: "Higher Education in the United States overall is in excellent condition. However, while our system overall is excellent, it is not uniformly excellent. ...In the area of general education we found only deterioration. ...In the area of basic skills, in the area of liberal learning, we have great deficits."

In February of 1983 the Institute for Research on Educational Finance and Governance at Stanford University published an article on "The Educational Implications of High Technology." The authors tell us that "...the general educational requirements for creating good citizens and productive workers are not likely to be altered significantly by high technology." Herewith is the abstract of the article:

> Many business leaders, government officials, and educators believe that high technology will dominate America's economic future, will upgrade the skill requirements of future jobs, and will require a transformation of our educational system to meet these needs. Despite the popularity of these beliefs available evidence contradicts them: the expansion of the lowest skilled jobs in the American economy will vastly outstrip the growth of high technology ones; and the proliferation of high technology industries and their products is far more likely to reduce the skill requirements of jobs in the U.S. economy than to upgrade them. Nonetheless, the educational system should strengthen the analytical and communicative skills of students, not because of the needs of high technology, but because such skills will help them deal with the changing political economic, social and cultural institutions they will face in their adult lives.

John Young, President and Chief Executive Officer of the Hewlett-Packard Company, in his article, "Reforming California's Schools is More Than a High-Tech Issue," says the following:

> One role of education is to prepare our young to be productive members of society. That means skill training: preparing people to earn a living. But there is a second role of education, and that is to prepare people, regardless of their eventual career choice, to understand the society in which they live. In this broader context, education's role is to prepare people to adapt to change, and to alter their career directions if they so desire. Whether we view the role of education as vocational or sociological, philosophical or inspirational, we probably all agree that those two roles point to the need to provide our young people with a solid background in basic skills.

Please note that Clark Kerr, the Stanford researchers, and John Young place a great deal of importance on general education.

It is not enough to do lip service to general education courses and general education patterns. As professionals and as educators we should demand quality in those courses. Quite often faculty are not as demanding of students in general education as they are of students in majors courses. Some departments will design general education courses to fill an auditorium, thus building up enrollments so that the department can offer upper division and graduate courses in classes of few students. Some university catalogs have descriptions that indicate that the courses meet general education requirements, but state that they are not designed for majors. If that is the case, I doubt that such courses are as academically rigorous as those designed for majors. Once the student has completed major and general education requirements, that student is presumably ready to enter the school of education to prepare to be a teacher. Given what I have just said about general education courses, I doubt that the student is ready to learn how to teach subject matter. In the course of their college training, many students will change majors two or three times, even more. Some of them change because they are exposed to teachers and subjects which all of a sudden spark an interest in them. If departments were to upgrade their general education courses and assign their best, most dynamic and most dedicated teachers to those courses, I think that more academically prepared students will join the teaching profession.

On March 2nd of this year, members of the California Roundtable for Educational Opportunity met in Los Angeles. Among the items discussed was a proposal which seeks to recruit more academically prepared students into the teaching profession through activities such as a well-designed media campaign to improve the image of the teaching profession, the use of teacher role models, and early incentives to encourage choosing teaching as a profession. Please notice that they seek to recruit more academically prepared students. I think that good student outcome, at any level, would enhance the image of the teaching profession and recruit potential teachers.

I believe that academically prepared students will be motivated to become teachers when the profession is upgraded in quality and in image.

Graduate schools, law schools and medical schools are difficult to get into and they are demanding in what they expect of students. Yet students clamor to get in, knowing full well the expectations. The same thing can be said about the number of "prestigious" universities that have more requests for admission than can be accommodated. Good students will always try to gain access to institutions and to subject matter regardless of the level of difficulty. We should try to do away forever with the notion that: "Those who can, do, and those who can't, teach." Let us say that: "Only those who can, should."

A high priority in the education process should be the quality of teachers in general and specifically of those who teach culturally different students which in California, before too long, will be just about every teacher. Before entering the teacher training program in the school of education, prospective teachers should have a solid foundation in breadth and depth of training that one should attain through rigorous general education courses in the natural sciences, the social sciences, the humanities and the language arts. After completion of the teacher training program, all prospective teachers should demonstrate exemplary skills in the teaching of reading, writing and mathematics and these skills should be tested before students leave the university. I applaud California State University at Long Beach for raising requirements for credential candidates. Students now need an overall grade point average of 2.75 to enter the credential program and are required to take the California Basic Educational Skills Test before beginning their student teaching.

There should not be a shortage of qualified professors in the schools of education to instruct student teachers in the development and the teaching of the skills mentioned above. I think that the schools of education across the country should take advantage of people like you. Over the years, the instructors in reading, writing, math and learning centers have been among the most dedicated in the teaching profession. You should all be involved in teaching teachers how to teach.

In addition to the above, I would insist that prospective teachers be exposed to courses in cross cultural awareness and courses in applied linguistics. This should bring about an awareness, a sensitivity, an acceptance and a respect for people of different cultural and linguistic backgrounds. I cannot emphasize too strongly the importance of a working knowledge of linguistics with specific knowledge of the nature of language and of learning.

The teacher competencies that I have outlined are not unreasonable and they are attainable. As educators and as professionals we should insist on them.

I commend you for the work you have done in the past and for what you are doing today. In order to maintain and improve on what you have you need to work with each other and cooperate with one another, and, more than anything else, keep your campus president involved and informed. Presidents do not always know what is going on and sometimes we learn more about your programs in times of budgetary crises when the competition for dollars overshadows pedagogical considerations. In his study, Clark Kerr tells us that "...It's only the president and the academic officers around him that really see beyond the department, ...who have the responsibility for the quality of education." But I say the president cannot do it alone, cannot do it without the involvement and support of the faculty. The president is and should be concerned with what you are doing, and you could not be where you are without presidential support. We really should continue to help one another.

Educational reform will be slow and difficult, but if you agree with some of the things that I have said today, reform can come about. And, if you were to achieve the goal I set for you at the start, education and all of us will be all the better for it.

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PERCEPTS OF THE PLACE OF COLLEGE READING INSTRUCTION AMONG FACULTY IN FOUR YEAR INSTITUTIONS

by

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Developmental reading courses have been offered in many colleges and universities since the early 1930s and are now being offered in over 50% of four-year institutions in the United States (Huslin, 1975). These reading programs suffer the stigma of being non-academic or remedial, even though they service the traditional student as well as the special-admit student. Little importance is attached to the skills and abilities which college-level reading material requires. More importantly, effective reading and study strategies relate to the larger issue of intellectual development in college (Perry, 1968; Smith, 1982).

Evidence of the problem:

1. Reading instruction is often relegated to learning centers and treated as a non-academic or remedial subject (Enright & Smith, 1974).
2. Reading courses are not given the same academic status as writing and speaking courses. Writing and speaking courses are given credit and have been traditionally accepted as part of the college curriculum (Miller, 1978).
3. Reading courses are usually the stepchild of a traditional department such as English, Psychology, Education, etc., and this weakens its position(Gibson, 1978; Huslin, 1975).
4. There is not continuity of auspices and administrative sponsorship from institution to institution (Chaplin, 1977; Huslin, 1975; Mason, Myers & Callaway, 1978).

Possible reasons for the problem:

1. Reading is perceived as a decoding skill rather than a complex cognitive process and the teaching of reading can and should be limited to the elementary and secondary school levels (Gibson, 1978; Manzo, 1979).
2. It is believed that college adults know how to read and are not likely to benefit from instruction (Miller, 1978).
3. It is believed that study skills courses do not require higher level cognitive ability usually associated with college courses. And that the workload and expectations for mastery are low in all reading courses whether offered for credit or non-credit (Manzo, 1979; Miller, 1978).
4. Reading specialists have failed to share the theoretical bases and research evidence with colleagues who believe that reading lacks a body of principles that need to be taught (Chaplin, 1978).
5. Finally, there is the belief that students who do not read well should not be admitted to the college/university and it is not the responsibility of the institution to provide instruction in reading (Brown, 1975; Huslin, 1975).

It is important, then, to clarify attitudes and beliefs about the status and roles of college reading programs that seem so prevalent among college instructors not directly concerned with the problem of reading. Such a global survey has never been done. The only surveys of college reading programs have been of a demographic nature (Chaplin, 1977; Huslin, 1975; Mason, Myers & Callaway, 1978). No formal research has been directed toward the traditional disciplines which would provide a more accurate reflection of the nature of those attitudes and beliefs about the reading at the college level held by persons not directly concerned with the improvement of reading.

It may be that there are variations of understanding about the reading process depending on the disciplinary affiliation of a particular faculty member which influences his attitudes and beliefs. Or, one's attitude toward the place of reading is a reflection of his philosophy of the mission of the institution and the division of responsibility within higher education today. Such a survey would help reading specialists gain a new perspective by gathering perceptions about the place of college reading from which, in turn, they could direct a more intelligent response to the problem.

Design of the Study

The intent of this study, then, was to assess and clarify the attitudes and beliefs about college reading among four-year college and university faculty. A questionnaire was developed and fieldtested in cooperation with the faculty in the Reading Department at California State University, Fullerton, and the Office of Institutional Research. The final form of the questionnaire contained three parts: a) items requesting information about existing courses offered on particular campuses; b) items soliciting views of college reading instruction in general and about the reading process in particular; and c) items about the philosophy of the mission and the division of responsibility in institutions of higher learning held by each faculty member.

Ten disciplines which represent a cross-section of disciplines in which reading is a particularly relevant concern were identified. The institutional sample of 300 included both private and state funded colleges and universities within the United States with student enrollments over 7500.

Letters were sent to the presidents of these institutions explaining the purpose of the study. A self-addressed return postcard was attached requesting the name of a campus contact person for those institutions who chose to participate. Once the postcards were returned, each contact person received an envelope with 50 surveys and directions for dissemination to the 10 identified disciplines. After a series of follow-up procedures via telephone and mail, a total of 3131 individual surveys (53%) were returned from 119 institutions (71%).

The design of this study was both descriptive and correlational (Issac, 1974). The major questions were directed toward a better understanding of the place of college reading today. What is the nature of college reading instruction throughout the United States? What are the views toward college reading instruction? What are the perceptions of the reading process? And, what is the prevailing philosophy of the mission of the institution and the division of responsibility for reading skills instruction?

Descriptive statistics on Parts I and II of the *Survey of Perceptions of College Reading Instruction* were used to determine the nature of current programs, the view of college reading instruction, the reading process, and the philosophies of the mission and division of responsibility of institutions among faculty of various disciplines. The bivariate analysis technique of chi square was used to provide a measure of interdependence or correlation among the frequences of responses related to the philosophies of the mission of the institution and the division of responsibility. Lastly, in an attempt to learn how disciplines differ regarding these same issues as well as the perceptions of the reading process, a regression analysis was utilized to describe both the significance and the nature of this difference.

Results of Study

The returned questionnaires were numbered and coded according to institutional and departmental affiliation. The representation of disciplines included in the sample including those which were combined due to percent of response were Business/Economics (587, 18.7%), English (381, 12.1%), History/Political Science (557, 17.9%), Life Sciences (366, 11.7%), Philosophy/Religion (236, 7.6%), Physical/Math Sciences (320, 10.3%), and Psychology/Sociology/Behavioral Sciences (671, 21.5%).

Nature of College Reading Instruction

This information was obtained from Part I of the survey. Based on the descriptive statistics employed, 66.9% of the responding faculty indicated that their institutions offer reading improvement courses for low performing students (71.9%). These courses include instruction in rate improvement (43.1%) and comprehension development (9.9%).

The most common basis for admittance to these courses is self-selection (47%). English departments (22.2%) and Learning Centers (15.8%) are divisions cited as those which most often present such courses. One interesting statistic was the large percentage of "Unsure" responses to these items from faculty members responding to questions requesting information on their own campuses. "Unsure" responses for particular items ranged from 23.4% for departmental sponsorship of courses to 42.3% for curriculum components of reading courses.

Views Toward College Reading Instruction

Part II of the questionnaire contained seven items that attempted to identify the views toward college reading instruction. From the results of the descriptive analysis, it can be seen that college students' overall reading performance was rated as Fair or Poor by 79.9% of the respondents while only 20.1% felt that it was Good or Excellent. Major reasons given for fair or poor reading performance included inadequate high school preparation (83.3%) and student attitude (45.9%). Such factors as difficulty and length of college reading assignments and the complexity of the mature reading process did not appear to be contributing reasons.

Ninety-seven percent responded that they had or would recommend that their students take courses in reading to become proficient in class. However, 69.3% indicated that reading courses should be offered only to low performing students for *non-credit* while 22.4% indicated that it should be offered to these same students for credit. Only 2.8% felt that such courses should be offered to average or highly proficient students.

Critical/analytical reading was rated Highly Important by 81.2% as a component of the reading curriculum. Finally, when respondents were asked to indicate where reading instruction belonged in the college structure, they primarily indicated English (33.8%), Learning Centers (20.8%) and Reading (11.6%).

Perceptions of the College Reading Process

Another major concern of this study was to learn about the perceptions of the reading process that exist at the college level. Question 14 on the survey provided ten statements about college reading to which the respondent was to indicate his level of agreement. Means and standard deviations for these items are presented in Table 1. The statements with which respondents seem to agree the most are seemingly contradictory. That is, while the means for Statements 1 and 2 were 1.652 and 1.44 respectively, these statements represent opposing views. The statement with the most disagreement reported ($\bar{x}$=4.291) was number 4, "College students know how to read and are not likely to benefit from instruction." This appears to contradict the results of statement 2 as well.

Table 1
Means and Standard Deviations for Each
Reading Process Statement (Question 14)*

STATEMENT	$\overline{X}$	*S.D.*
1. Reading is a complex skill	1.652	1.007
2. Reading is a basic skill	1.443	.808
3. Mature reading requires sophisticated thought processes	3.203	1.416
4. College adults don't need reading instruction	4.291	.952
5. Reading courses don't require same cognitive processes as other courses	3.279	1.315
6. Inconclusive evidence of effectiveness of reading courses	3.064	.901
7. Lower work load and expectations of reading courses	2.857	.836
8. Reading courses should be excluded from curriculum	3.700	1.298
9. Lower skill students should not be admitted	2.895	1.361
10. Colleges must adjust curriculum to accommodate students	3.178	1.461

**The statement options were reordered for data analysis 1. Strongly agree; 2. Agree, but with qualification; 3. Have no opinion; 4. Disagree, but with qualification; and 5. Strongly disagree.*

Another interesting statement with which respondents disagreed was number 8 ($-\overline{X}=3.700$) which declared that, "Reading courses may be valuable, but in the case of limited funding for higher education the courses should be exluded from the curriculum." Respondents tended to disagree with all of the other statements including 9 and 10 which appear to be conceptually contradictory as well. It is interesting to note that the high level of disagreement seen with most of these statements would tend to corroborate a conclusion that respondents do believe college reading to be a sophisticated and complex process that is a valuable component in the curriculum.

Philosophy of the Mission of Institutions of Higher Learning

Another question was designed to learn the views of faculty about their philosophy of the mission of the institution. As Table 2 indicates, 83.2% preferred a blending of the liberal arts emphasis with preparation in a chosen field. Only 12% indicated that the primary responsibility of the college was to produce students with a strong liberal arts emphasis while only 4.7% felt that a career path was the main mission.

Table 2
Distribution of Responses for Mission
of Institution (by percent) - Question 15

MISSION OF INSTITUTION	*N*	%
1. Strong liberal arts	367	12.0
2. Chosen fields	145	4.7
3. Liberal arts and chosen fields	2543	83.2

Philosophy of the Division of Responsibility

The last question on the survey asked a respondent to identify his philosophy of the division of responsibility related to students' education. The results of this question can be seen in Table 3. While 54.7% felt that it

Table 3
Distribution of Responses for
Division of Responsibility (by percent) - Question 16

RESPONSIBILITY	*N*	%
1. College's responsibility	1594	54.7
2. Student's responsibility	1293	44.4
3. Combination	24	.8

was the college's responsibility to offer courses which provide instruction in the basic skills, 44.4% indicated that it was the students' responsibility to have these skills before entering college or to acquire them on their own once they had enrolled in college.

Relationship between Disciplines and Views of the Mission of Institutions and the Division of Responsibility

A major emphasis of this study was to understand disciplinary variations related to philosophies of the mission and division of responsibilities in higher education. The results of the chi square analysis comparing the disciplines and these philosophies can be found in Table 4. For the most part, all disciplines agreed that colleges should provide both a liberal arts and career education (X^2 =189.5, df=12, $p<.001$). However, some disciplines tended to be more liberal arts oriented. As could be expected, these included English, History/Political Science and Psychology/Sociology (average % =24.166). On the other hand, Business/Economics and Physical/Math Sciences supported a career orientation (average % =30.6%).

Table 5 demonstrates that these disciplines tended to follow this same pattern when correlated with the philosophy of the division of responsibility (X^2 =54.7, df=12,$p \angle .001$). That is, the humanities tended to believe that it was the college's responsibility to provide basic skills instruction (average % =59.172) whereas the Life and Math Sciences felt that it was the student's responsiblity (average % =50.266).

Table 4
Chi Square of Discipline by Philosophy (by percent)

	Business/ Economics	English	History/ Political Science	Life Sciences	Philosophy Religion	Physical/ Math Sciences	Psychology/ Sociology
LIBERAL ARTS	9.5	13.9	31.1	5.2	10.6	2.2	27.5
CHOSEN FIELD	43.1	2.1	7.6	9.0	4.2	18.1	16.0
COMBINATION	18.7	12.7	16.5	13.1	7.3	11.0	20.8

[X^2 *=189.5, df=12, p <.001*]

Table 5
Chi Square of Discipline by Philosophy (by percent)

	Business/ Economics	English	History/ Political Science	Life Sciences	Philosophy Religion	Physical/ Math Sciences	Psychology/ Sociology
College's Responsibility	50.1	69.9	55.4	51.9	55.9	45.2	55.5
Student's Responsibility	48.8	29.2	44.0	47.6	43.1	5.44	43.4
Combination	1.1	.8	.6	.6	.9	1.3	1.1

(X^2=54.7, df=12, p<001)

Disciplinary Differences Regarding Perceptions of the Reading Process, Mission of the Institution and Division of Responsibility

Finally, a multiple regression analysis procedure was utilized to determine if there exists a predictable and patterned relationship among the variables studied. The results of these analyses revealed that those who felt it is the college's responsibility to provide basic skills instruction also agreed with seven of the statements that represent perceptions of the reading process at the college level. These include 1) reading is a complex skill; 2) reading is a sophisticated thought process; 3) reading courses require the same cognitive processes as other courses; 4) reading courses are effective; 5) the work load and expectations in reading courses are the same as in other college courses; 6) inadequately prepared students should be admitted to the institution; and 7) colleges should adjust their curriculum to accommodate these students.

Disciplinary patterns are most interesting. Faculty in English perceive reading as a sophisticated thought process. They also believe that such courses require the same cognitive processes as other courses. On the other hand, faculty in the Physical/Math Sciences, Life Sciences and Business/Economics and those who believe in career preparation also feel that college adults already know how to read and, therefore, do not need any further instruction. A corollary to this belief is the view that colleges must not adjust their curriculum to accommodate students who are inadequately prepared.

Discussion

The information about the characteristics of college reading programs provided in this survey expands the literature to date. However, it must be remembered that faculty members completed these questionnaires and they may not have had the same perspective as an administrator on their campuses.

After reviewing the results of this study in analyzing the respondents' level of agreement to 10 statements about college reading, it appears that faculty have contradictory views about this process. Gibson (1978) has indicated that faculty do not believe reading instruction to be a university function. But it is interesting to note that even as faculty indicated that colleges should not adjust their curriculum, they contradicted themselves when questioned as to the division of responsibility. Most felt that it was the college's responsibility to offer courses which provide instruction in the basic skills. It would seem that there is an unclear understanding or perception of the place of college reading and the responsibility of the institution to provide reading instruction.

There are several implications supported by these data that need to be considered. One implication is that there are differences among disciplines in relation to their views of the reading process, the mission of the institution, and the division of responsibility. One's philosophical orientation, even though often not articulated, can influence critical decisions that are made in higher education. Toombs (1980) reports that the perspective that faculty take on academic programs is the critical factor for most institutions in the next decade. The future place of college reading in the curriculum, however uncertain it may now be, will be determined by faculty such as those who participated in this study.

Finally, other implications recognize the disciplinary differences projected in this study. College reading specialists could foster a natural alignment with English faculty who seem to share to same perceptions of the reading process. Since status and credibility seem to be built upon recognized research, college reading should pursue joint research efforts with the more "traditional" disciplines such as Psychology and Sociology.

While these findings do validate some of the common folklore of the perceptions of college reading instruction, they also present a challenge to the field of college reading to clarify these existing misperceptions. Such a clarification should help to validate both the viability and respectability of the place of college reading in higher education today.

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LEARNING CENTER ASSESSMENT:

MANAGING FOR CHANGE IN THE 80'S

by

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We are veterans of the Learning Center wars of the 70's. That is, we were both involved in providing answers to the question of what to do with the students that came to us as a result of the more liberal admissions policies of the 60's. Most of these questions came from traditional faculty in the form: "What do I do with a student who: can't read on a college level / write a complete English sentence / add fractions / think critically?" Faculty and administration on our college campuses struggled with the answers to these real dilemmas; the college learning center developed out of that struggle.

Learning Centers were not a product of any single department or administrative sector. Nor were Learning Centers a single concept that spread in prefabricated fashion across campuses. One of us, with a background in reading, developed a Learning Center within a large state-owned southern university of more than 18,000 students. The other, a counselor in an urban extension center of a small private suburban university, created a quite different response to quite different problems. Certainly anyone familiar with Learning Centers across the country will find a diversity of approaches and programs for a diversity of student populations.

In the 80's, Learning Centers have joined counseling services, career information offices, placement centers and other support services as integral parts of the campus. Although not all colleges and universities have Learning Centers, clearly the effect Learning Centers are having on the academically disadvantaged student has largely ceased to be a major question. The good fight to secure educational support services for our marginal students has, at least in concept, been won.

In a purely subjective way, we have noticed a shift in the kinds of questions we are asked about Learning Centers. In the 70's we got many calls (sometimes desperate pleas) from colleagues for help in convincing obdurate administrations that an LC was needed on their campuses. Now we get more questions about how to survive in an era of retrenchment and fiscal austerity, how to hold on to the few resources already won.

We are entering a new stage of development for Learning Centers. We need to review our goals and change our programs, policies, personnel, and budgets to fit the reality of the 80's. Not to do this is to risk what little political and fiscal power we now possess.

Through this process of reassessment, we have developed our view of the purpose and function of Learning Centers. Our institutions of learning do not respond quickly to the rapid changes in our society. Universities react to these changes, but frequently the response is slow and ill-conceived. The Learning Center should not be the last link in this response chain but should be instrumental in predicting future needs and influencing policy as well as delivering services.

For example, the LC manager should not wait passively to find out who his new students are each semester but forecast the likely changes in student populations and the impact on the campus and the Learning Center. With this information, we believe an LC manager will be in a better position to influence admissions policy *before* changes occur. This process will also lead to a Learning Center that is better equipped to serve the needs of new populations instead of finding out, when it may be too late, that services are inadequate, unprepared, or inappropriate.

What is required is a redefinition of our traditional role of service deliverers. We must be prepared to provide a quicker response to societal and institutional change. We must be willing to influence the process of change well in advance of the ponderously slow procedures of most institutions. We must be ready and willing to cultivate and use the channels of power that we frequently ignore or misunderstand.

Most Learning Center personnel come from backgrounds in reading, writing, math, counseling or study skills. In these fields we have rarely been the power brokers on campus. Too many of us see ourselves as powerless and dependent on Department Chairman, Deans, or Vice-Presidents.

It is our belief that a reason we become so dependent on the vagaries of campus policy, rather than influencing it directly, is that we do not ask the right questions. In order to understand how our universities work, we must ask questions that give us a picture of the total university, not just the fragments that influence our isolated corner of the campus.

The purpose of this manual is to direct you to the right questions, the kinds of questions that will most likely lead you to a better understanding of how your institution works. The data that you collect will allow you to predict, plan for, and partially control the process of change. Answering these questions will take a lot of time and effort. While there may be value in merely reading the questions, we are convinced that the greatest benefit will come from the accumulation of details that comes from answering each question thoroughly.

These questions are grouped under five headings: history and structure of the institution, student population, academic standards and retention, academic support services and the utilization of resources.

HISTORY AND STRUCTURE OF THE INSTITUTION

Setting

Briefly describe the setting of your institution in terms of urban/rural/suburban characteristics, proximity to metropolitan centers, and general economic conditions.

In the next five years will this area change significantly in terms of population, economics, etc.? If so, how?

Type of institution:

_____ public

    _____ independent

    _____ part of regional or state system
        (if yes, describe)

_____ private

    _____ non-denominational

    _____ religiously affiliated

_____ Ph.D. granting

_____ Masters granting

_____ Bachelors granting

_____ Associate granting

_____ Certificate (vocational)

Academic Majors

What is the predominant academic emphasis on your campus?

List the five largest majors by the percentage of the student population enrolled:

a.
b.
c.
d.
e.

Academic Faculty

Total number of faculty:

______ Full-time

______ Part-time

What percentage of the full-time faculty is tenured? ________

What percentage of the full-time faculty has been hired within the last five years? ________

Within the last ten years? ________

Funding

Briefly describe the mechanisms for the regular funding of your institution. Include details about formula driven and line items.

Trace the percentage increases or decreases of the funding your institution has received in the last five years.

	Amount	Percent (+ / -)
a. current year	$ ________	________
b. a year ago	________	________
c. two years ago	________	________
d. three years ago	________	________
e. four years ago	________	________

What major effects have been evident from the funding of recent years? (For example, have tenured faculty been released? programs been added or deleted?)

Power Brokers

Frequently, there is an organizational chart which depicts the lines of responsibility and authority. In reality, that chart does not always reflect how decisions are made and implemented. Compare the chart from your institution with what you know of the real power structure. If you are not yet knowledgeable about the "real power structure", try to determine it by the following strategies:

a. **Trace the history of a major academic decision. Who advocated it? Who opposed it? Whose viewpoint prevailed?**

b. Find an old, respected academic administrator (maybe one who has gone back to teaching) and ask for help in understanding the power structure. In fact, if you can find two, all the better.

What are your conclusions? Who on your campus holds the power for decision making? What do you know of their backgrounds, values, loyalties, enemies, prejudices?

Institutional Image

The image of an institution can, and usually is, many things to many people. No single overall picture of your institution is necessarily complete or definitive. Sources for this information include official publications (i.e. catalogs, brochures, etc.), public speeches, media coverage and public opinion.

The college catalog describes the institution as

The faculty see the institution as

The administration sees the institution as

The students see the institution as

The alumni see the institution as

The local community sees the institution as

You see the institution as

Has the general image of the institution changed over the last five years? If so, how?

Will the general image change over the next five years? If so, how?

Patterns of Institutional Change

It is important to realize how amenable your institution is to change. There are several strategies to trace this characteristic:

1. Does your institution do formal long-range planning? If so, at what administrative levels, how often, and how detailed?
2. What is the history of change over the last five years: Has the administrative structure been significantly altered? Have major programs been added or deleted?

What has been the general response of the faculty to the changes listed in (1) above?

State and Regional Influences

Sometimes there are large forces which greatly influence our institutions. These can include mandated testing, legislative priorities, vocational retraining, economic dislocation. List the outside influences which you believe will affect your institution.

STUDENT POPULATION

Demographics

What is the current enrollment on your campus?

TOTAL	________	
Full-time		%
Undergraduate	________	____
Graduate	________	____
Part-time		
Undergraduate	________	____
Graduate	________	____

What percentage of your population are transfers from other institutions?

How geographically diverse is your student populations? What percentage comes from

Out of the local area ______
Out of state ______
Out of the region ______
Out of the country ______

Have there been significant changes in total enrollment or ratio of undergraduate to graduate/full-time to part-time students in the last five years? If so, describe these changes and possible reasons for them.

Housing Status

What percentage of your student body

lives on campus ______
lives in the local community ______
commutes ______

Age

What percentage of your student body is between the ages of

17-22 ______
23-25 ______
26-35 ______
36-60 ______
60-? ______

Which specific subpopulations (displaced homemakers, foreign students, Greeks, athletes, EEOP, etc.) should you consider in the future planning of your LC? List them and their approximate size.

Predictions

What are your institution's predictions for the next five years regarding enrollment, housing patterns, age range and subpopulations?

Student Background and Values

What are the most obvious background characteristics of your students (i.e., socio-economic status, ethnicity, urban/suburban/rural, parent's education, religion)?

Most student populations contain several definitive subgroups such as working students, Greeks, jocks, partyers, bookworms, campus leaders, adults, kickers, mainstream, etc. Define five important groups on your campus and list their major values.

Admissions

Does your school see itself as:

Highly selective
Selective
Very low selection criteria
Open admissions
Special admissions criteria
Combination of two of the above

What is the catalog or brochure criterion for admission?

Does your school use admissions tests as a criteria for entrance? Which ones? What are the cut-off points?

Are there exceptions to the cut-off criteria, such as student athletes or foreign students? List each exception and describe the criterion for admission for each.

Frequently we see that, while the institution has a stated policy of admissions, there is a covert of implied criteria for entry into the school. It may be necessary to sift data from the admissions office to unearth this information. However, the admissions office will usually reveal the exceptions to the stated criteria.

Are there criteria in force that you know about that are not listed in the catalog? What are they?

Is there a covert policy regarding the admission of students needing financial aid? Is there a quota of any kind for financially dependent students?

Are there key personnel on campus, outside of the admissions office, who make admissions decisions? Who are they and what decisions have they made?

Transfer Policy

What is the overt policy regarding the admission of transfer students?

Are there any unstated or implied factors which supplement or contradict the stated policy? What are they?

List the top ten feeder schools for your institution. Next to each one indicate what type of student generally comes from that school.

Predictions

It is important to ascertain whether there will be changes in covert or overt admissions policies during the next five years. Is the institution's admissions committee considering such changes? If so, what are they? Are there any top-level administrators talking about admissions policy changes? If so, who are they and what are they saying?

Marketing and Recruitment

How an institution advertises itself reveals a lot of information about academic policy, self-image, and current trends within the school.

How is your school marketing itself? What is the image that the school is trying to project? Give specific examples of advertising to support your beliefs.

ACADEMIC STANDARDS AND RETENTION

Academic Standards

Describe the current academic standards (good standing, probation, suspension) for undergraduate students on your campus. If there is a different standard for freshmen, describe it separately.

Is this standard(s) strictly adhered to? If no, what is the actual policy and who are the people that modify the written policy?

Have there been any significant changes made in the stated or unstated policy in the last three years? If so, what are they?

What are the formal committees that determine the stated policy and, perhaps, the unstated policy? What is the composition of the committee(s) and what viewpoint does each group (e.g. faculty, administrators, students) have?

What is the effect that the actual policy has on your Learning Center?

Do you believe that your institution's academic standards will change in the next five years? If so, how and why? (Possible sources of information include: the minutes of academic standards committee meetings and of the faculty senate, official publications, board of regents policy statements).

How will those proposed changes specifically affect the LC and its programming?

Is there an office or committee on campus that routinely collects and analyzes data on student academic performance? If so, do you regularly monitor that data? What conclusions have you drawn from the data:

1. What are the characteristics of the students who are on probation or suspension?

2. Can any groups of high-risk students be predicted? Identify them.
3. What supportive data exists to indicate if special programming would help these students' performance?

3. What supportive data exists to indicate if special programming would help these students' performance?

Retention

How much of an issue is retention currently on your campus? Does the debate focus on academic or economic issues?

Is there a formal retention committee or task force and are you a member of it? (You should be.) What are the philosophical arguments regarding retention that are being heard on your campus and who are the proponents?

Who on your campus is collecting and analyzing retention data?

List below the percentages of freshmen to sophomore retention in the last 5 years. (You can compare local with national figures by requesting the national information from Dr. Lee Noel from the American College Testing Program.)

Rate

1. Last year ____________
2. 2 years ago ____________
3. 3 years ago ____________
4. 4 years ago ____________
5. 5 years ago ____________

What official function does your LC play in the institution's retention policy? What unofficial services does your LC provide to retain students?

What major trends can you predict in the retention rate of your institution (e.g. changing populations or standards leading to lower or higher rates).

How are you documenting your LC's efforts at retention? How do you anticipate the changes will affect the programs in your LC?

ACADEMIC SUPPORT SERVICES

History/Philosophy/Objectives

Just as it is important to understand the patterns of change within an institution (see Patterns of Institutional Change), it is also worthwhile to review the history of the academic support services on your campus.

Briefly outline the history of your Learning Center. When did it begin? Who was most responsible for its creation? Did it evolve out of a tutoring program, departmental learning lab, or other support service?

What was the original objective of the Learning Center? Who was the population to be served? What goals were explicitly stated at the inception of the LC? (You may need to refer to the original charter or LC proposal for this information.) What goals were implicit?

What is the acknowledged philosophy of the LC as it exists now? How has it changed over the past five years?

Relationship to Academic Departments

Where an LC is housed within the institution can be a critical question for the LC's growth, change and, occasionally, its survival.

Is the LC a part of the support services on your campus or is it responsible to a school or department? If it is linked to traditional academic departments, briefly describe the relationship. Include any supervisory functions that the Dean or Department Chairmen may have over the LC.

What advantages or limitations will this affiliation have on your program in terms of instructional format?

Briefly describe the status of any credit courses that your LC offers that fall under an academic department, i.e., how many courses are offered? How much credit?

Does any LC staff teach one of these courses? Does any of your staff have tenure in a department? Does any other staff member have ties to a department? Briefly describe each person's relationship to the department including departmental responsibilities.

Are there any plans to change the status of the credit courses you offer? Describe the nature of the proposed changes and whether the department is supporting or resisting these changes.

Are there any plans to change the status of the LC within your institution from one department or school to another, or from support services to an academic area, or vice versa? List all the possible changes and who supports and who opposes these changes.

Current Status

1. What is the current organizational structure of your institution. Draw an organizational chart which clearly defines the lines of authority from the board of trustees to your center. Be sure to include those who have informal as well as formal responsibilities.
2. How is your Learning Center funded?

   Total budget:

   Five years ago ______________

   Last year ______________

   This year ______________

   Proposed next year ______________

   What percentage of the LC total budget is:

   Hard funding (within a stated budget for the LC) ______________%

   Soft funding (grants or discretionary monies) ______________%

   What is the source(s) of the hard funding for the LC?

   Are there any institutional funding changes that could affect the LC? If so, what are the possible budgetary changes and how would they affect your operation?

   Are there any state funding changes that could affect the LC? If so, what are the possible budgetary influences and how would they affect the status of your LC?

3. Physical Plant

   How much physical space do you currently have?

   ______________ sq. ft.

   List the major uses of the space:

   Evaluate the adequacy of the facilities. Is there adequate space for your academic support programs and other needs of the LC? If not, what do you need in specific terms?

   Is the space you currently occupy appropriate in terms of student access and proximity of necessary resources (e.g., the library)? If not, what physical space that currently exists on your campus would be more appropriate to your needs?

   Does your institution have plans to add additional buildings, or expand current ones, that would affect your LC? What effect would these plans have and who is directly responsible for these changes?

4. Programs*

Which of the following academic skills programs are currently included in your LC?

Reading comprehension ________
Speed reading ________
Math ________
Writing ________
Grammar and spelling ________
Vocabulary development ________
General study skills ________
Subject matter tutoring ________
English as a second language ________
Graduate school test preparation ________
Other: ________

Which of the following affective skills programs are currently offered in your LC?

Test anxiety/relaxation ________
Confidence☐ ________
Positive self-concept ________
Concerns of the adult student ________
Educational/cultural adjustment for the foreign student ________
Survival (campus policies and procedures) ________
Anxiety for public speaking ________
Assertiveness training ________
Motivation ________
Values clarification ________
General counseling ________
Other: ________

Which of the following delivery formats do you currently use?

Subject-area one-on-one tutoring
  Drop-in ________
  Scheduled ________
Subject-area group tutoring ________
Study skills counseling ________
Non-credit classes ________
Credit classes ________
Workshops
  In the LC ________
  On campus ________
  Off campus ________
Other: ________

After looking at any recent changes in the student population at yo institution, how would you evaluate the appropriateness of these program and formats? For instance, is your schedule of services appropriate to the needs of your population?

5. Personnel

The composition of the Learning Center staff has a significant impact on the delivery of services.

What percentage of your total staff is:

Full-time professional ________
Part-time professional ________
Administrative ________
Secretarial/clerical ________
Paraprofessional ________
Other: ________

*from *Developing A Learning Center From A to Z.*

The staff of an LC is often asked to respond to a diversity of student needs. However, it is rare to find personnel with background in each of the disciplines (i.e., reading, writing, counseling, etc.) that the job usually calls for. Assess the qualifications of your staff to deliver the services needed in your LC. What qualifications or training are lacking or scarce?

In the 70's on-the-job training was the rule rather than the exception. As the role of the LC has changed, training has become more systematic. Describe the training procedures for each of the staff categories.

Draw an organizational chart of the lines of authority and responsibility within the Learning Center. Is it clear who is responsible to whom? Are responsibilities clearly defined? Does everyone have input into decision making?

6. Friends and Enemies

List the supporters (friends) of the LC and the reasons why.

List the detractors (enemies) of the LC and the reasons why.

7. Image/Public Relations

How and where does your LC advertise itself? What image do you project in your advertising? Do you use a logo or other symbols to represent you? Briefly describe all media, formal or informal, that you use to inform students of your services.

The faculty sees the Learning Center as

The administration see the LC as

The students see the LC as

The alumni see the LC as

The local community sees the LC as

Your staff sees the LC as

You see the LC as

Is there a network of referrals to your LC on campus? If so, list all the faculty/administrations/agencies that commonly make referrals. Next to each item, describe the type of problem for which a student is commonly referred.

Does your LC make any other attempts at public relations within or outside the institution? Describe the objectives of each instance of image building.

8. Technology

The computer revolution has had an enormous effect on education in general and Learning Centers in particular. Some of the most important changes in the 80's will be the result of technological innovations.

Does your LC currently use computers for instructional or administrative purposes? If so, describe the general plan or philosophy behind their use. Or have you inherited them with little or no coordination or planning?

Does your institution have a plan for use of computers on your campus? Is there a committee or agency responsible for computer planning for the 80's or 90's? If so, describe the plan and indicate who is largely responsible for future computer purchases.

If you are currently using computer software, how is it purchased? Who is responsible for evaluating the educational value of the programs? Briefly describe the process from evaluation to purchase as it exists now.

What other types of technological aids are you using in your Learning Center?

Film strips
Audio cassette tapes
Video tapes
Slides
Overhead transparencies
Other

How is the usefulness of these materials assessed?

9. Evaluation

Accurately assessing your LC's ability to accomplish its stated goals can mean the difference between increased funding and administrative indifference. What is the mechanism whereby you determine the success and failure of your LC's stated objectives? Analyze the strengths and weaknesses of this method (e.g., objective vs. subjective measurements).

Who receives these evaluations? Who should? What effect do you expect them to have on the future of your LC? What effect would you like them to have?

Is there an administrative or committee review of your LC and its programs? If so, describe the review and what effects the results have had on the present and the future of your LC.

Are all staff, including you, routinely evaluated? If so, briefly describe the method.

Do you solicit feedback from students? If so, how?

USING RESOURCES

What publications do you regularly read (e.g., *The Chronicle of Higher Education*, *The Journal of Remedial and Developmental Education*, the New Directions Series on *College Learning Assistance*)?

How many scholarly articles and/or books have you read in the past year? What were the topics?

Have you taken college courses in the past three years to gain or improve a skill (e.g., computer, counseling, education, accounting)? If so, describe.

Are there local or campus workshops, seminars, retreats on topics which would increase your management knowledge or skills? If so, describe.

What campus committees would it benefit you to attend or to belong?

What knowledgeable and/or influential poeple on campus would it benefit you to know? How can you accomplish that?

Are you a valuable resource for the administrators on your campus? If not, how could you accomplish that?

Do you belong to any local or regional organizations that focus on Learning Centers or basic skills? If so, list these organizations and how they could be of help to you.

National Association for Developmental Education
Western College Reading and Learning Association
American College Personnel Association:
  Commission XVI on Learning Centers
Other:

List any resource people (other LC directors, officers of professional organizations, etc.) who you could contact for help in assessing any aspect of your LC. Mention how each one could be helpful.

We want to emphasize that our manual, as exhaustive as it may appear, is only the first step. Not only does the accumulated data need to be sifted and evaluated so that you can plan a purposeful strategy for managing change, you need to create a system for remaining knowledgeable about your institution and the factors affecting it.

After answering these questions, what will you do? You have several options. You can do nothing. You can form short-range goals for your LC. You can attempt to influence institutional decisions. You can even use this information unethically to bend the decision-making process for personal enhancement.

Perhaps a first step is to share this information with your staff or others who are concerned with the issues facing Learning Centers. We strongly urge that, having discovered the answers to these questions, you regularly reflect, write, discuss, plan the direction of your LC. In essence, we are saying that you be the decision-maker for your Learning Center rather than relinquish that power to the traditional decision-makers within your institution.

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ASSESSMENT, ADVISING AND EARLY WARNING: STRATEGIES FOR IMPROVING RETENTION

by
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Santa Barbara, California

Santa Barbara City College has a history of concern for meeting individual student needs, evidenced by a variety of programs and services designed to enhance student success. These programs include services such as special counseling, tutoring, financial aid, EOPS, basic skills, study skills, individualized learning labs, and a learning diabilities program. However, in 1982, attrition was a serious problem. Unnecessary attrition from courses and from the college is extremely costly. As a result, early in spring semester of 1982, the Superintendent/President and Dean of Instruction formed a broad-based College Readiness Committee composed of faculty, administrators, and a student representative. The committee was charged with reviewing the effectiveness of SBCC's support programs, reviewing research on student retention, and recommending ways to improve student success and retention through academic skills assessment, student academic advisement, articulation and coordination of support services, and integration of academic skills development into the full instructional program of the college.

Starting in February, 1982, the College Readiness Committee met weekly. The members approached this complex charge in the following manner: First, research on student retention in community colleges and four-year institutions was reviewed. Next, current practices and attitudes at Santa Barbara City College were surveyed. Finally, a document recommending overall goals, specific action objectives, persons responsible, and a timeline for implementation was produced.

The College Readiness Committee Report, "Assessment, Advising and Early Warning: Strategies for Improving Student Academic Success at Santa Barbara City College," was then presented to the college community for discussion in May, 1982. Plans for implementation were endorsed that fall.

Recommendations

The recommendations, covering five areas, reflected what research showed were necessary practices for good student retention.

Assessment

Because an assessment and placement process did not exist at SBCC, many students placed themselves in classes in which they had little chance for success. The review of the literature pointed out that an increasing number of community colleges were providing assessment programs designed to place incoming students in appropriate classes and provide developmental assistance for those who needed it (Roueche and Archer, 1979). At Southwestern College a 1976 study reported that although motivational and socio-economic factors were related more strongly to dropout rates (where a student completely leaves school), skill factors were more strongly associated with class persistence and success. Reading level was highly correlated with performance or survival in 93% of the subject areas (MacDougall, 1977, August 15). At Sacramento City College the effective use of an assessment/placement process plus some curriculum revision significantly increased the retention of college students (Haase, 1982).

At SBCC, the purposes of establishing an assessment program were to enhance student success, improve retention, assist students to make good choices about courses and careers, and save the taxpayers, students, and college time and money. The committee recommended assessment of reading, writing, and math skills prior to registration for all new students enrolling in eight or more units and for all students planning to enroll in English, English-as-a-Second Language, or math classes. In order to accomplish the objective, a sub-committee was formed to (a) establish procedures for the assessment program; (b) select assessment instruments; (c) provide assessment at high schools; (d) establish skills level prerequisites for all content classes; and (e) evaluate all components of the assessment program.

Advisement

A national survey entitled "What Works in Student Retention" (Beal and Noel, 1980) solicited information on the types of programs, new or modified, that were introduced on college campuses specifically to improve retention. Most often mentioned was improvement of academic advising, followed by orientation activities, exit interviews, special counseling programs, early warning systems, and new academic support services. Miami Dade Community College reported (Anandam, 1981, May) that a high priority was given to improvement of the advisement process, including additional funds, computer support, and involvement of faculty. A research report from UCLA recommended mandatory orientation, advising, and follow-up counseling during the academic year (UCLA, 1980, January). Based on the research review, the Readiness Committee agreed upon the following recommendations:

1. Provide mandatory preregistration advisement to all students enrolled in 8 or more units or who seek a degree/certificate.
2. Require an orientation for first-time college students.
3. Involve faculty on a voluntary basis in academic advisement at registration and at group counseling sessions. Provide inservice training to faculty members who volunteer to act as advisors.
4. Provide comprehensive career counseling services.

Early Warning and Coordination of Support Services

Friedlander (1982, February) indicated that students who drop classes often do so because of academic problems, whereas students who withdraw completely from college do so mainly for non-academic reasons (e.g. financial, employment, moving, ill health, personal problems). Miami-Dade (Anandam, 1981, May) has established an Early Warning System which requires faculty to indicate on the class roster the academic and attendance progress of each student during the seventh week of the term. This faculty response, combined with other student background information, is fed into the computer, which then generates an individualized letter to each student offering encouragement, suggestions for improvement, and referrals to support services.

The College Readiness Committee felt that SBCC had an obligation to identify as early as possible students who are experiencing difficulty and refer them to appropriate college services. The following recommendations were made:

1. Identify entering students with skill deficiencies through the assessment program and student self-reporting on an entering student survey form. High risk students would be referred to the counseling center and to other appropriate support services.
2. Establish a summer bridge program for entering students who are deficient in basic skills.
3. Require faculty members to make a sixth-week progress report on every student enrolled in their classes. Computer-generated letters would be sent to students with difficulties.
4. Schedule additional study skills, career planning and basic skills classes to begin halfway into the term.
5. Monitor academic progress at the end of each semester.
6. Provide referral forms and a directory of study support services to each faculty member.

Institutional Fit

Breckel and Mackie (1981, May) define institutional fit as a match between institutional goals, programs, expectations, and environment and student's needs and expectations. When prospective students are provided with clear and accurate information about their skills levels, the college and its expectations, they are able to make more realistic decisions. In order to improve institutional fit at SBCC, the College Readiness Committee recommended the following:

1. Incorporate information about sample student budgets (including books, transportation, housing, child care, etc.), study time required outside of class, and hours recommended for work/units enrolled into the Student Handbook, Schedule of Classes, and College Catalog.
2. Request all instructors to provide a syllabus describing course expectations to students and the Instruction Office.
3. Publish a glossary of college terminolgy.
4. Develop an orientation program for hourly and new instructors.
5. Identify buildings and post directories on main floors.
6. Survey evening students to determine the desirability of providing more support services at night, and if days/times of class offerings best meet their needs.

Honors

In providing educational opportunities and to retain its academically superior students, SBCC also saw the need to provide an Honors Program. In Fall, 1982, the Honors Subcommittee recommended the following:

1. Revise the catalog statement on the honors program to reflect a college-wide thrust.
2. Establish honors course criteria to be submitted to the Curriculum Advisory Committee.
3. Encourage departments to offer honors courses, including interdisciplinary alternatives.
4. Provide greater recognition of honors students and academic scholarship recipients during graduation ceremonies.
5. Send letters of recognition to SBCC and local high school honors students from the Superintendent/President.
6. Investigate, in conjunction with the Foundation, the establishment of scholarship programs for SBCC honors students.
7. Investigate the establishment of an Honors Professorship trust to encourage well-known experts in various academic areas to come to SBCC on a one-year basis to teach.

Implementation

The Politics

At SBCC the Superintendent/President wrote a statement of commitment and appointed a broad-based committee made up of faculty members from various academic and vocational-occupational disciplines, the directors of the Reading Program, Writing Lab, ESL Program, Disabled Student Services, Financial Aid, and EOPS, the Dean of Student Services, Assistant Dean of Instruction, Coordinator of Student Development, and counselors.

Even with top administrative and broad-based support, some problems and questions arose. Who was responsible for the project? New lines of cooperation between student services and instruction made total responsibility unclear. Who was to be responsible for the implementation of each specific objective? Once budget and staff needs were determined, how would they be funded? Once students were assessed, should the placement be voluntary or mandatory? If placement was mandatory, would the college offer the necessary skill-building classes? If not, would the college simply deny access to underprepared students? Was the counseling staff large enough to respond to the new recommendations? Could Data Processing implement the proposals, especially in the areas of assessment, early warning, and evaluation? Was the college willing to provide the resources (computer, staff, money) to evaluate the project on an on-going basis?

The Specifics

Assessment. Beginning Fall, 1983, all students enrolling in eight or more units or who wished to enroll in reading, writing, ESL, or certain math classes were assessed in reading, writing and math skills. Special arrangements were made for students with learning disabilities.

Writing, ESL, and certain math placements are mandatory; reading placements are strongly recommended. Advisory skills eligibility levels for all content courses are published in the Schedule of Classes.

A certificated instructor in reading was given sixty (60) per cent released time to serve as the Assessment Specialist. With an Assessment Committee composed of an Assessment technician, certificated instructors in English, ESL and math, a counselor, and student workers, a great deal of time and effort was initially spent planning the details of the assessment program.

Assessment is offered prior to registration every semester on campus and at each of the area high schools in the spring. The tests selected determine the model. The English test consists of a thirty-five minute reading comprehension test (Stanford Diagnostic Reading Test, Blue Level, Form A) and a thirty minute essay, holistically scored by English Department faculty. For math, students have three test options, depending on their backgrounds:

1. College Board Computation Placement Test (25 minutes);
2. Algebra Preliminary Exam, U.C. Mathematics Diagnostic Test (45 minutes).
3. Pre-calculus Exam, U.C. Mathematics Diagnostic Test (90 minutes).

The ESL test is composed of 100 items sampled from the textbooks used in levels one through five. Students with diagnosed learning disabilities are given untimed tests by the Learning Disabilities Specialist.

Students must have an eligibility card when they register or add a class.

To continue through the developmental program, students in reading, writing, and ESL classes are given departmental exit exams. Students in the math classes must receive a grade of C or better. For the English/Essential Skills, ESL and math programs, a new effort at articulation of objectives between levels became essential.

Advisement. Given the size of the counseling staff, the recommendation to require advisement for all new students enrolling in eight or more units proved unrealistic. However, new students are assigned to group advising sessions prior to registration. All students on academic or progress probation are required to have counseling appointments. To date, some faculty members have participated at registration and several departments have taken an active role in advising majors. Although the orientation is not yet closely tied in with the testing and group advising, a slide/tape orientation presentation was developed in Fall, 1983.

Early warning and coordination of support services. Because Data Processing is understaffed and could not implement the Early Warning System, the plans are lying dormant.

The coordination of Support Services Subcommittee accomplished its tasks. A Referral Form and Directory was published and distributed to all faculty. Short courses in reading, writing, study skills, personal development, and career planning are offered halfway into the semester. Study skills adjunct classes for specific content areas are offered each semester, including study skills for the UCSB/SBCC Transition Program. The EOPS Program has developed a Summer Bridge program.

Institutional Fit. All of the recommendations were implemented by Fall, 1983, except for the requirement that all faculty submit a detailed course outline to the instruction office. This recommendation will be implemented in Fall, 1984.

Honors. The Honors Subcommittee, now an on-going Academic Senate committee, is currently drafting criteria for honors courses.

Preliminary Results

Two studies have been conducted and others are in progress. The first study (Miller & Esch, 1984) was to evaluate the effects of the Assessment/Placement Program on student classroom performance and attrition. The effect on student performance was evaluated by comparing the grade distributions in English, Essential Skills, ESL, and certain math classes between Fall Semester, 1982 and Fall, 1983. Fourth week to end of semester attrition was compared between Fall, 1982 and Fall, 1983, semesters when the change in assessment procedures took place.

Overall the statistics are favorable. In math and some English classes, general improvement in grade performance occurred. (See Tables 1 and 2) With respect to attrition, there were notable drops in attrition in Fall, 1983. (See Figures 1 and 2). However, the college experienced an overall drop in attrition in Fall, 1983, perhaps due to the institution of a ten-dollar per course drop fee. Percent attrition college-wide in 1982 was 26.7% compared to 21.2% in Fall, 1983.

Table I

English/Essential Skills Grade Distributions

Fall '82 and Fall '83

E S 1-4	Basic Skills	Fall 82	Percent	Fall 83	Percent
Credit		58	64%	69	70%
No-Credit		7	8	9	9
Withdrew		26	28	21	21
Totals		91	100	99	100

E S 20 - 25	ESL	Fall 82	Percent	Fall 83	Percent
A		90	19%	99	18%
B		114	25	118	22
C		89	19	119	22
D		35	8	48	9
F		47	10	60	11
Withdrew		89	19	97	18
Totals		464	100	541	100

E S 30	ESL Transition	Fall 82	Percent	Fall 83	Percent
Credit		14	61%	26	74%
No-Credit		5	22	4	11
Withdrew		4	17	5	14
Totals		23	100	35	100

E S 34	ESL Transition	Fall 82	Percent	Fall 83	Percent
Credit		42	59%	45	71%
No-Credit		20	28	10	16
Withdrew		9	13	8	13
Totals		71	100	63	100

E S 40	Reading	Fall 82	Percent	Fall 83	Percent
Credit		44	66%	79	74%
No-Credit		7	11	17	16
Withdrew		15	23	11	10
Totals		66	100	107	100

Table I (cont.)

E S 44	Writing	Fall 82	Percent	Fall 83	Percent
Credit		99	65%	129	76%
No-Credit		15	10	18	11
Withdrew		38	25	22	13
Totals		152	100	169	100

English 10	Writing	Fall 82	Percent	Fall 83	Percent
Credit		179	59%	180	70%
No-Credit		46	15	39	15
Withdrew		79	26	38	15
Totals		304	100	257	100

English 90	Reading	Fall 82	Percent	Fall 83	Percent
A		15	20%	18	19%
B		28	36	31	32
C		16	20	20	21
D		2	2	2	2
F		3	4	8	8
Withdrew		14	18	18	18
Totals		78	100	97	100

English 1	Eng. Comp.	Fall 82	Percent	Fall 83	Percent
A		137	18%	209	23%
B		259	33	288	31
C		148	19	177	19
D		19	2	33	4
F		44	6	38	4
Withdrew		173	22	171	19
Totals		780	100	916	100

Table II

Math Grade Distributions, Fall '82 & Fall '83

Math 1	Basic Math	Fall 82	Percent	Fall 83	Percent
A		248	28%	319	38%
B		147	16	143	17
C		45	5	23	3
F		35	4	39	5
Withdrew		418	47	310	37
Totals		893	100	834	100

Math 3	Pre-Algebra	Fall 82	Percent	Fall 83	Percent
Credit		31	40%	39	46%
No-Credit		25	32	42	50
Withdrew		22	28	3	4
Totals		78	100	84	100

Math 7	Elem. Algebra	Fall 82	Percent	Fall 83	Percent
A		54	11%	73	17
B		93	18	86	21
C		101	20	97	23
D		47	9	28	7
F		52	20	36	9
Withdrew		162	32	95	23
Totals		509	100	415	100

Math 9	Plane Geom.	Fall 82	Percent	Fall 83	Percent
A		6	9%	7	13%
B		8	12	13	24
C		10	15	8	15
D		2	3	4	7
F		7	11	2	4
Withdrew		32	49	20	37
Totals		65	100	54	100

Table II (cont.)

Math 11	Int. Algebra	Fall 82	Percent	Fall 83	Percent
A		23	9%	56	18%
B		43	17	73	23
C		47	18	55	17
D		29	11	27	9
F		27	10	31	10
Withdrew		89	34	74	23
Totals		258	100	316	100

Math 17	Elem. Statistics	Fall 82	Percent	Fall 83	Percent
A		8	11%	8	15%
B		17	24	12	23
C		20	28	15	28
D		6	8	4	8
F		4	6	1	2
Withdrew		16	23	13	24
Totals		71	100	53	100

Math 25	Calculus I	Fall 82	Percent	Fall 83	Percent
A		19	10%	18	13%
B		30	15	34	25
C		33	17	24	18
D		11	6	15	11
F		21	11	13	9
Withdrew		81	41	33	24
Totals		195	100	137	100

Figure 1. Attrition in English/Essential Skills Classes

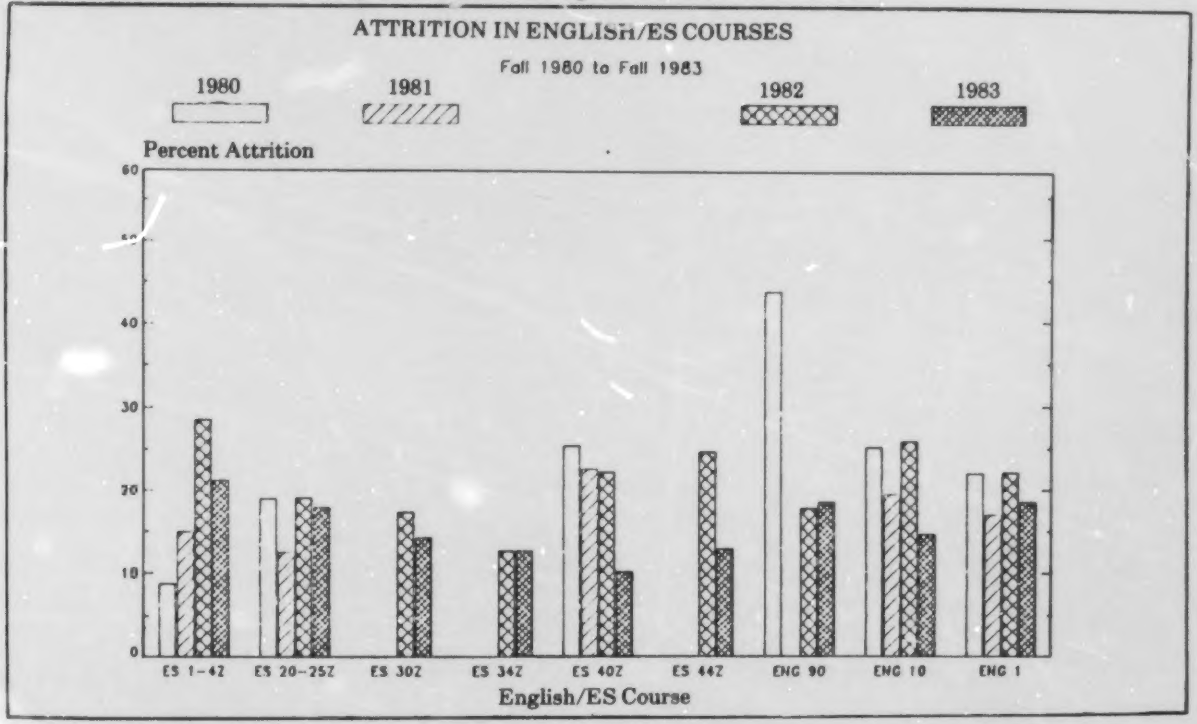
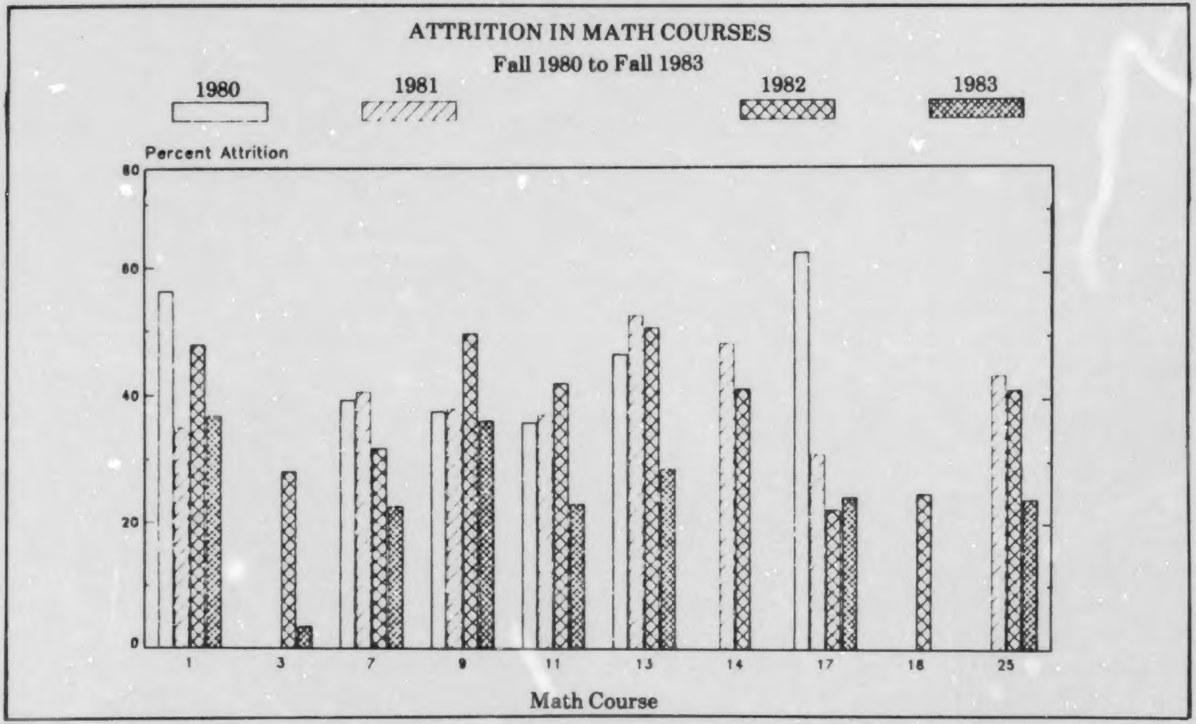


Figure 2. Attrition in Math Classes



Maureen McGrath-McGuire, in her study "Attrition at Santa Barbara College," (1984) found that the strongest predictors of positive academic success and retention in college, Spring, 1983, to Fall, 1983, were high scores on the Stanford Diagnostic Reading Test and the student's stated academic or vocational goals. Other important variables were hours worked and full-time versus part-time student status. McGrath-McGuire's study reinforced the efforts of the College Readiness Committee.

Currently the evaluation of the Essential Skills classes is concentrating on several factors: gains in student skills, retention in classes, retention in college, and performance in subsequent classes.

Instruction and Student Services are working cooperatively to implement the recommendations made by the Readiness Committee. However, it is essential that follow-up, on-going evaluation be conducted to determine the effects of the Assessment/Placement, Advising, and Developmental Programs.

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ADJUSTMENTS IN READING INSTRUCTION BASED ON MODALITY PREFERENCES

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Teachers throughout the United States have become increasingly aware of the need to increase the success of students in various reading activities. Educators have used different methods and materials to prevent failure, but whatever method has been tried, some students have not learned to read as well as they should.

Research into modality preferences, learning styles, teaching styles, and other such elements has increased within the last few years. Though the concept of learning modalities was first reported by Sigmund Freud in 1886 (Charcot, 1953), it wasn't until 1894 that the first research projects on the concept of preferred modality were carried out. Hugo Munsterberg (1894) concluded that the visual memory greatly excels auditory memory when tested separately. People supporting various types of teaching have continued until today the argument begun a century ago.

According to Rita and Kenneth Dunn (1979), all students are affected by sociological elements, environmental elements, emotional elements, and physical elements. Among the physical elements that affect a student's ability to learn are his/her own perceptual strengths and weaknesses.

> A student's perceptual strengths and weaknesses are extremely important, for no matter how motivated a youngster might be, inability to absorb and retain through an inappropriate sense tends to dampen motivation and certainly, inhibits achievement. (Dunn and Dunn 1979, p. 244)

What kinds of implications does this have for the teacher? In view of the Dunns' statement, how should the teacher teach? Should the teacher teach to a specific modality? If so, which one? How does this affect remedial instruction? Many more questions could be rasied as modality relates to instruction. Certainly, we must at least look into the possibility of adjusting instruction to assist the students to retain learning through an appropriate sense so that teaching will not dampen motivation and inhibit achievement.

Selected Modality Research

A large body of educational research examines modality preferences and learning styles, not only at school age, but also at the adult level. Research dating back to the 19th century can be found in almost every area of modality preferences. Because of the vast amount of research, only a few selected research studies will be reviewed here.

In a study by Freer (1972), 36 per cent of first-grade students showed a modality preference. According to Dunn and Dunn (1979), between 20 to 30 per cent of students are auditory, 40 per cent visual, and the remaining 30 to 40 per cent either tactile/kinesthetic, visual/tactile, or some combination. Sabatino, Ysseldyke, and Woolston (1973) found that 1/3 of educable mentally retarded children were visual learners and 1/3 were auditory learners. Although Robinson (1972) stated that the "modality matching process may be applicable to a relatively small proportion of the total population," most authorities seem to disagree. According to DeHirsch, Jansky, and Langford (1965), teaching methods should, to a large extent, be determined by the student's modality strengths and weaknesses. Kirk and Kirk (1971), Sabatino and Hayden (1970), Frostig (1965), Wepman and Bond (1960), Morency (1960), and Chall (1967) agree. In fact, according to Farr (1971), students should not only learn in their preferred modality, but should be tested in it. Dunn and Price (1980) found that gifted students were more likely to want to concentrate on ideas and extrapolate, rather than using the auditory modality by listening to the teacher.

Studies show modality modality preference appears to be more important for poor readers (Cooper, 1970). For the beginning reader and the remedial or poor reader, Balmuth (1968) felt that auditory perception had special significance. Goldstein (1940) and Tinker (1968) supported this finding. For good readers, the value of modality preference seems more hazy. In one study, good readers learned best and retained more from kinesthetic and multisensory combinations (Cooper, 1970). In contrast, Balmuth (1968) and Tinker (1968) both felt that for good readers the visual modality becomes dominant. Budoff and Quinlan (1964) found that both good and poor readers learned more rapidly from aural presentations. Regardless of these disagreements, Price, Dunn, and Sanders (1981) suggested that teachers capitalize on students' high reading achievement by using students' learning styles to improve reading.

The above studies indicated positive results in working with modality preferences. Yet, in reviewing research in modality preferences, one can find different positions supporting various types of teaching.

University of Nevada Reno, Reading Clinic

For 16 years, the Gates Associative Learning Test (Reading Clinic, Temple University) has been used to determine a student's learning strengths. This test is used in the UNR Reading Clinic to determine the student's visual or auditory learning style. The writer developed a test to be used with the Gates to determined if the students have a tactile/kinesthetic learning style. With the combination of the two tests, three areas of learning styles were determined for each student. Based upon these tests, a student was placed in a visual, an auditory, or a tactile/kinesthetic learning-style program, and at times is placed in a combination of two areas.

Activities for Specific Modalities

Even though there is great variance in the research on modality preferences and learning styles, and many times the above tests do not exactly pinpoint a student as one type or the other, our placement devices have been found very useful in initially placing a student in the preferred modality, or combination of modalities, for reading instruction. The following suggestions for instructional activities for each modality are not inclusive, nor does each activity automatically fit only one area. The activities have been placed in one of three areas to assist meeting the modality preference for each student.

Visual Modality Preference. In the visual modality preference area, the following activities could be emphasized:

1. Seeing, watching, and observing;
2. Silent reading;
3. Whole word approach (sight words);
4. Workbooks, worksheets, and pictorial presentations;
5. Posters, signs, and pictures throughout the room;
6. Configurations and picture clues for unlocking unknown words;
7. Written instructions;
8. Introduction of words that look different from each other;
9. Overhead projections, slide films, and movies;
10. Experience charts or stories;
11. Memorizing as eyes follow the passage;
12. Labeling, categorizing, and matching;
13. Dot-to-dot sequencing;
14. Alphabet displayed visually in the room.

Auditory Modality Preference. For students exhibiting auditory modality preference, the following activities should prove especially effective:

1. Impress method of reading;
2. Choral reading technique;
3. Tape-recorded books and stories;
4. Phonics approaches to reading;
5. Lecture method;
6. Oral Reading;
7. Verbal discussions;
8. Oral reporting;
9. Responding orally to sight words;
10. Oral directions;
11. Reading dialogue and plays;
12. Writing from dictation;
13. Small group interaction;

14. Rhyming words.

Kinesthetic/Tactile Modality Preference. In the kinesthetic/tactile modality preference area, the following activities could be emphasized:

1. Direct involvement activities;
2. Word wheels, strips, and body games;
3. Writing or tracing;
4. Acting out scenes and dramatic play;
5. Identifying letters and words by touch;
6. Three-dimensional and manipulative activities;
7. Writing while memorizing a passage;
8. Programmed reading;
9. Games involving real-life physical activities;
10. Stories with action in them.

While using the above activities, students working in their preferred modality appeared to be actively motivated and interested in their reading activities.

Conclusion

The research studies as reported in this article have indicated a the benefits of working with students in their preferred modalities; however, other research studies into modality preferences do not show this positive relationship. The possible basis for these inconsistencies may be the testing instruments used in determining modality preferences and/or the difficulty in controlling this variable while doing the research. The writer has found, while working with students in their preferred modalities in the University of Nevada-Reno's Reading Clinic, that students were able to stay on task 90 per cent of the time or higher per activity, and they seemed to be more highly motivated and interested in reading.

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THE RELATIONSHIP OF GPA, ENGLISH PLACEMENT TESTING AND READING ACHIEVEMENT OF SELECTED FRESHMEN

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Students entering the California State University and Colleges (CSUC) system are required to take the California State University and Colleges English Placement Test (1977) developed by the system in cooperation with the Educational Testing Service. The English Placement Test (EPT) measures reading and writing skills for the purpose of identifying those students who require extra remedial/developmental instruction in order to succeed at university-level study. Of the four subtests, three are multiple choice and one is essay writing on an assigned topic. The three multiple choice subtests include Reading, Sentence Construction, and Logic and Organization. The emphasis is on placement and the scores are skewed to the bottom half so that meaningful distinctions may be made among the weaker students. Each campus within the CSUC system determines follow-up procedures for students who do not meet the criteria (The California State University and Colleges English Tests, 1980). The EPT results are used more frequently to place students in writing courses than in reading courses.

Problem and Purpose

In practice two assumptions surround the EPT. One is that what is measured on the test is related to college success and the other is that the

EPT is basically a test of writing ability. Though the Test Development Committee presupposed a close relationship between reading and writing and recommended reading instruction (CSUC A Descriptive Guide For The EPT, 1978), the test is perceived as support for an overall writing program by the Chancellor's Office (CSUC English Tests, 1980). This may partially explain the more frequent assignment of students to writing courses rather than to reading courses or to both reading and writing courses. However, content analysis of the EPT suggests that it is as much a test of reading ability as of writing ability, if not more so. Assessment of reading is not limited to the Reading subtest.

As to the former assumption, reading and writing abilities are widely accepted as requisites for college success. Whether that success as measured by grade point average (GPA) can be predicted by the EPT or a standardized reading test is a question to be explored. There is also the question of whether performance on one skill can predict performance on another. Thus, the purpose of this study was to explore whether the EPT is basically a writing test and whether it has predictive value.

To investigate the possibility that the EPT tests reading more than writing, scores of freshmen who had taken both the EPT and a standardized reading test, Sequential Test of Educational Progress, Reading (STEP-Reading) (1971) were compared. To assess the predictive value of the EPT, comparisons were made among the EPT and STEP-Reading subtests and among high school GPA and college GPA. Previous studies (Bailey, 1978; Michael and Shaffer, 1978, 1979) have compared the EPT with the Scholastic Aptitude Test, GPA, and the Test of Standard Written English. The importance of this present study is that it focuses on the reading aspect of the EPT and compares it to a standardized measure of reading achievement.

Hypotheses

It was thought that the statistical data obtained would provide evidence 1) that there is a positive correlation between the subtests of the EPT and the subtests of the STEP-Reading; 2) that the EPT subtests, Sentence Construction and Logic and Organization correlate highly with the Reading subtest indicating that these tests also tap reading skills; 3) that there is a high predictability among the EPT and STEP-Reading subtests; and 4) that high school GPA would predict college GPA better than either the EPT or the STEP-Reading subtests.

Description of The Tests

This study focused on the EPT and STEP-Reading subtests. The EPT subtests of most interest were the Reading, Sentence Construction and Logic and Organization. The reading section assesses typical comprehension tasks such as main idea, inference, figurative language and vocabulary in context using very short passages or a sentence. Three types of questions are on the Sentence Construction subtest including the proper phrasing of an idea that preserves the style and logic of both the sentence and the conventions of standard written English. This subtest also examines the student's ability to select a word or expression that indicates the proper logical connection between two ideas in a sentence. Finally, the Logic and Organization subtest focuses on the ways in which ideas can be arranged in logical sequence. Specific questions require that a student categorize terms, indicate the relationship of sentences, find the organizing principle in a series of ideas, choose beginning and concluding sentences for paragraphs and distinguish fact from opinion and literal statements from figurative ones.

The Sequential Test of Educational Progress (1971) is a battery of achievement tests including Reading, English Expression, Mathematics, Science and Social Studies intended for students in grades 4 - 14. There are two forms of each test. Form A of the Reading test was used in this study. The Reading test has two separately timed parts. The first part (Vocabulary) contains 30 sentence comprehension items of two types. One type requires students to choose the option closest in meaning to an underlined word in a sentence. The second type requires students to infer the meaning of a word among the options through the use of the context.

The second part of the test is a reading comprehension test including six passages of about 800 words each, categorized as either narrative, humanities, science, or social studies. There are 30 questions which attempt to assess the ability to comprehend (having knowledge of sentence structure and recollection of sequence of ideas and facts); translate (identifying ideas stated in language different than the original); infer (deducing meaning of figurative language, applying ideas to new situations, recognizing specific inferences) and analyze (recognizing and appraising literary devices, tone, logical structure and purpose, attitudes, beliefs, and knowledge that influenced what an author wrote) (STEP Handbook, 1971).

Variables

Besides the EPT subtest variables of Essay, Reading, Sentence Construction, and Logic and Organization, another variable was the compositition score which is derived from the performance on the Essay, Sentence Construction and Logic and Organization tests. The total score reflecting all subtest scores was also included. Additional variables from the STEP were the subtests of Vocabulary (Sentence comprehension) and Comprehension (passage comprehension). Finally, high school and college GPA were included to ascertain which one of these traditional predictors might relate to either the EPT or the STEP.

Statistical Procedures

The study was not only descriptive but also correlational and predictive. Frequencies for all the variables were calculated and the results compared with the CSUC mean where approprite. Generally, the sample in this study was similar to the CSU systemwide population who had also taken the EPT.

Intercorrelations among all the variables were calculated for the total sample. Then, a stepwise regression model was employed to analyze the relationship among the EPT, STEP and GPA variables (Achen, 1983; Lewis-Beck, 1980; Nie, 1975). Each analysis yielded a standardized regression coefficient from the last step (β), a correlation of the independent variable to the dependent variable (simple R), a measure of the variance accounted for by the predictors (R^2) and a test of statistical significance of the multiple correlation.

Finding/Results

The results of this study are summarized in relation to each of the four previously stated hypotheses:

1) As indicated in Table 1, there is a high correlation between subtests of the EPT and the STEP. A high correlation was evident between the STEP Vocabulary and two EPT subtests; Reading (.637) and Sentence Construction (.663). STEP Comprehension correlated highly onlt with EPT Sentence Construction (.637). Interestingly, other than the EPT Sentence Construction (.610), the EPT Essay subtest did not correlate highly with either the EPT subtests or the STEP subtests.

2) There was also a high correlation between the EPT Reading subtest and the EPT Sentence Construction subtest (.746) and the EPT Logic and Organization subtest (.754).

Table 1

Intercorrelations Among Test Variables, High School G.P.A. and College G.P.A.

VARIABLE	HSGPA	CGPA	STEP VOCAB	STEP COMP	EPT ESSAY	EPT READ	EPT SENT	EPT LOGIC	EPT COMP	EPT TOTAL
HSGPA										
CGPA	328									
STEP-VOC	029	025								
STEP - COMP	061	.169	634							
EPT-ESSAY	284	.178	.472	.456						
EPT READ	072	112	637	571	531					
EPT SENT	123	096	663	.637	.610	746				
EPT-LOGIC	064	180	.531	574	.482	.754	671			
EPT COMP	166	176	658	.660	.779	.817	.898	869		
EPT TOTAL	140	166	670	.657	737	893	.893	.873	.985	

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3) The variable of EPT Logic and Organization as shown in Table 2 seems to indicate disagreement with the independent variable of EPT Sentence Construction (β= -.919, p < .001), EPT Essay (β=-.702, p < .001), and EPT Reading (β =-.309, p < .001). Again, in Table 3, these same variables re-emerge. EPT Logic and Organization (β =-1.060, P < .001) EPT Essay (β =-.750, p < .001 and EPT Reading (β =-.339, p <.001). Finally, Table 4 shows the results of the analysis predicting EPT Essay. The negative betas for EPT Logic and Organization (-1.392, p < .001), EPT Sentence Construction (—1.289, p<.001) and EPT Reading (—.432, p<.001) again indicate disagreement in predicting the department variable. However, the combination of the high intercorrelation as shown in Table 1 and the negative beta in the multiple regression analysis suggest multicolinearity.

TABLE 2
MULTIPLE REGRESSION ANALYSIS PREDICTING EPT LOGIC AND ORGANIZATION

Variable	Beta	Simple r	F
EPT Total	1.120	.874	48.367***
EPT Sentence Construction	-.919	.671	2887.582***
EPT Essay	-.702	.482	3266.931***
EPT Composition	1.381	.869	122.794***
EPT Reading	-.309	.754	42.933***

Multiple R .998
R Square .996

*p < .01 **p < .05 ***p <.001

TABLE 3
MULTIPLE REGRESSION ANALYSIS
PREDICTING EPT SENTENCE CONSTRUCTION

Variable	Beta	Simple r	F
EPT Composition	1.462	.898	114.354***
EPT Logic and Organization	-1.060	.672	2887.582***
EPT Essay	-.750	.610	2212.362***
EPT Reading	-.339	.746	45.761***

Multiple R .998
R Square .996

*p $<$.01 **p $<$.05 ***p $<$.001

TABLE 4
MULTIPLE REGRESSION ANALYSIS
PREDICTING EPT ESSAY

Variable	Beta	Simple r	F
EPT Composition	1.964	.779	129.727***
EPT Logic and Organization	-1.392	.482	3266.932***
EPT Sentence Construction	-1.289	.611	2122.362***
EPT Reading	-.432	.531	41.786***

Multiple R .996
R Square .993

*p $<$.01 **p $<$ .05 ***p $<$.001

4) Finally, as Table 5 indicates, there is a high predictive value of high school GPA on college GPA ($\beta = .336$, $p < .001$). The other variables were not significant.

TABLE 5
MULTIPLE REGRESSION ANALYSIS PREDICTING COLLEGE G.P.A.

Variable	Beta	Simple r	F
HSG.P.A.	.336	.327	8.626***

Multiple R	.418
R Square	.174

*p < .01 **p < .05 ***p < .001

Conclusions

The following conclusions can be formulated from the data:

1) The EPT taps reading ability in three of the four subtests. This, coupled with the positive correlation of some of the EPT subtests and the STEP-Reading subtests, indicates that though the EPT may be tapping writing ability, it is also tapping reading ability in a substantial way.

2) The predictive ability of the EPT subtests in this study are clouded by the possibility of multicolinearity, and thus it would be unwise to draw conclusions from the data.

3) High school GPA is a better predictor of college GPA than either the EPT or the STEP-Reading.

Discussion

Michael and Shaffer (1979) also found that the Essay subtest did not correlate highly with the other subtests on the EPT. It does, however, correlate highly with the EPT Composition and Total scores (.779 and .737). Therefore, one could not say that the EPT does not tap writing ability, but perhaps it is more of a reading test than a writing test.

The higher correlation between the STEP Vocabulary subtest and the EPT Reading subtest rather than the STEP Comprehension and EPT Reading subtests may be explained by content analysis. The STEP Vocabulary subtest has more items in common with the EPT Reading subtest than does the Step Comprehension subtest. In fact, the last ten items on the EPT Reading subtest are one sentence items very similar to the

STEP Vocabulary subtest. The STEP comprehension involves longer reading selections and attempts to measure skills beyond those assessed on the EPT Reading subtest. Interestingly, the students scored lower on the STEP Comprehension subtest than on any of the other subtests. This may be explained by the fact that the EPT is considered an easy test for the population as a whole.

Though the possibility of multicolinearity makes drawing conclusions about the predictive values of the EPT subtests in this study, its possible existence does suggest that a strong commonality exists among the variables. Some may conclude that this common element is reading ability. However, others may conclude that it is writing ability. It is possible that it is a third factor: the thinking ability which reading and writing share in common. Perhaps this is the factor which should be pursued in further studies.

Recommendations

Besides pursuing the commonality of thought which underlies both reading and writing, there are other recommendations offered related to further study and future practices. Naturally, the possibility of multicolinearity or some other explanation for the recurring negative betas must be explored. Also, it may be fruitful to add the total STEP Reading score to the data so some comparisons might be made between the composition and total scores of the EPT. Colleges using the EPT may wish to further study the idea that the EPT is as much a test of reading ability as writing ability and to reassess the practice of assigning students to writing classes alone. If the test measures reading and writing as this study and the test developers indicate, why not offer courses which combine the two. The large size of the CSUC system alone suggests that practices within the system have implications far beyond the system.

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MICROCOMPUTER INSTRUCTION IN DEVELOPMENTAL EDUCATION: A STATE OF THE ART REPORT

by
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During the spring of 1983 the newly established Computer Task Force of the National Association for Developmental Education (NADE) conducted a survey of its members and of members of the Western College Reading and Learning Association (WCRLA) to determine the computer needs and the computer resources available to both memberships and to establish not only a sense of community among current and prospective computer users but an informational network for them. It was difficult to determine the percent represented by the responses due to the overlap between institutions and the inability to determine whether institutions failed to respond because they had no computers. Nevertheless, fifty-two (52) institutions from all over the United States were represented in the final survey results.*

The survey was divided into two major areas. The first section identified the institution and the resources it had. The second section identified the needs of the developmental program at each institution. While a copy of the raw data is available from the NADE Computer Task Force (1983), what follows is a discussion of the major findings.

The majority of respondents (69%) used the Apple Computer. The second most popular hardware was divided equally between Commodore and TRS 80 (17%) with Digital a close third. The average memory size was 48K. In addition to these four, another fifteen were mentioned (see Table 1), and many institutions reported using more than one system.

TABLE 1

Computers Used in Developmental Programs

Computer	*Percent*
Apple	69%
Trs 80	17%
Commodore	17%
Digital	15%
IBM (PC)	09%
VAX	05%
IBM (Mainframe)	02%
Prime	02%
Atari	02%
ZX1	02%
TI	02%
Sigma	Mention
Kaypro	"
HP	"
Franklin	"
Alpha Micro	"
AMDAHL	"
UNIX	"
WANG	"

Note: Percent based upon 52 respondents.
Some respondents use more than one computer.

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The peripherals reported in use were also varied. Seventy-six percent of the respondents use printers. It is no surprise that 92% of the respondents use disk drives. A small percentage (13%) of the programs are plugged into institutional mainframes, primarily for managerial purposes.

Developmental programs have used microcomputers for one to five years with an average time period of 1.5 years. Most were purchased with entitlement money and used with equal frequency for English, reading, and mathematics instruction.

Thirty-nine percent of the respondents are currently developing their own software, while 96% reported having purchased software. The range of software purchased is vast and varied. However, of all the respondents, only 19% stated that they would recommend the software they purchased (see Table 2). One-third are using guidelines they themselves have developed for selecting hardware or software, or for developing software. Ninety-two percent of instructors have taken inservice training in computer usage, while the others learned on their own. Finally, 96% said they were satisfied with their hardware, and 72% of that group were considering further purchases of computers.

TABLE 2

Recommended Software

1. Borg Warner
2. Conduit
3. COMSKL
4. Georgia Tech Calculus Program
5. Hartley BLS
6. MECC Parts of Speech and Readability
7. Milliken Sentence Combining
8. PFS Filing
9. Software Publishing Management Programs
10. Superscripsit

The second component of the survey was needs assessment. The overwhelming need mentioned was a NADE users' group. This item received a "one" from 92% of the respondents. The second greatest need was for information on "good" software, and the third was for creative ways to implement computer use in the learning situation. NADE has set the first two needs as priorities for the coming year.

Most of the research on computer-assisted instruction (CAI) uses academic achievement, measured by standardized tests or course grades, to determine the success and effectiveness of CAI for the majority of students. As a result of these studies, some interesting observations can be offered. The following discussion reviews CAI research in general, and is followed by a discussion of specific studies in the areas of mathematics and reading.

Research in Developmental Education (Boylan, 1983) reports a study conducted by Kulik, Kulik & Cohen. These researchers used a technique called a "meta-analysis" on over 500 studies of computer-based instruction. Meta-analysis is a statistical method used to analyze a large number of original studies with the same basic research design. Kulik, Kulik & Cohen included those studies that 1) dealt with college level instruction, 2) provided quantitatively measured outcomes, and 3) used good methodological design. The resulting number of studies used in the meta-analysis was 59.

Kulik and his colleagues examined five categories. The first category examined the effects of computer-assisted instruction on student achievement. Fifty-four of the fifty-nine studies were used; the measure of achievement used was student scores. They found that computer-based instruction had a very modest impact on student academic performance, that it raised student test scores by about one quarter of a standard deviation from the norm. Further, they found that instructional techniques, such as the Keller-Plan, had a greater impact on student achievement than did CAI (Boylan, 1983).

The second category examined by Kulik, Kulik & Cohen was correlation between student aptitude and achievement. Boylan (1983) summarized these results by stating, "Insofar as developmental students are concerned, the use of computer-based instruction does not seem to improve their performance any more or less than any other type of student" (p.2).

The third category was course completion. Kulik and others found no significant differences between the withdrawal rate of students in computer-based instruction over that in conventional courses. In addition, no evidence was found to suggest that the withdrawal rate for low-aptitude students was any different than that for average or high-aptitude students (Boylan, 1983).

The effect of computer-based instruction on student attitudes was the fourth category. Once again no statistically reliable difference was found in the attitude toward the subject matter for students enrolled in computer-based courses versus those enrolled in conventional courses.

The final category was the only one where any significant results were reported. This category dealt with the effects on time required for instruction. According to Kulik, Kulik & Cohen, the use of computer-based instruction saved a substantial amount of instructor time. Instructors in the conventional courses spent 3-5 hours per week in teaching as compared to 2.25 hours per week spent by instructors in computer-based courses.

Boylan summarizes the research of Kulik, Kulik & Cohen with the following statements: "...practitioners can expect computer-based instruction to produce about the same outcome as conventional instruction. Computer-based instruction should be at least as effective as conventional instruction and, in some cases, may be related to a slight improvement in student academic performance" (p.6).

The research on the outcomes of computer-based or assisted instruction skill development is particularly interesting for mathematics and reading. In studies (Edwards, Norton, Taylor, Weiss, and Dusseldorp, 1975; McDonald, 1983) conducted in mathematics at the elementary and secondary level, researchers experimented with supplemental instruction offered from three days to five days a week with each session five to fifteen minutes in length. The researchers suggest that the supplemental use of computer-assisted instruction for drill and practice in the mathematics class-room enhances student achievement.

At the postsecondary level two studies identified techniques that were apt to have a positive effect on student achievement. Koop (1982) examined the effect of calculator use versus pencil and paper use in the arithmetic classroom in a community college. The experimental group learned how to use the calculator and used only the calculator for classroom work, homework, and tests. No significant difference was noted in achievement between the two groups, but the calculators had a differential effect on several groups broken down by ages (Koop, 1982). The data suggested a favorable relationship between calculator use and achievement for populations under 29.

McDonald (1983) studied a self-paced, mastery oriented developmental mathematics course conducted at a university. The experimental group was assigned a minimum of 25 minutes per week in the computer lab in order to complete required computer assignments. The control group completed a set number of problems which appeared in the margin column of the textbook. No significant differences in achievement were found between the treatment group and the control group. However, one interesting event that occurred during the study dealt with students' success rate in passing the required quizzes. In a mastery format course, students are allowed to repeat quizzes or exams until they pass with the required score.Students using the computers passed their tests on the first attempt 95% of the time while 85% of the students in the control group repeated quizzes at least two or more times.

Such research on computer use in developmental mathematics suggests that supplemental computer instruction, specifically drill and practice, may be beneficial in improving student achievement, that the student's age should be considered when assigning computer instruction, and finally that supplemental computer use in a mastery format class may promote greater efficiency in the testing situation.

In reading, a similar pattern occurs. Most of the students reported by Mason, Blachard and Daniel (1983) were conducted in elementary and secondary settings. However, those involving adults produced some rather interesting results. In one study conducted by Mathis, Smith and Hansen in 1979, students were pretested on attitude toward CAI, then assigned either outside reading or 45 minutes of CAI. According to Mason and his colleagues (1983), students attitudes were positive to start with and became more positive after CAI instruction. This was expecially true if they made relatively few errors during instruction. Another study by Ikey and Majer in 1976 dealt with students who were studying Bloom's mastery learning strategy at the PLATO IV terminal. No difference in achievement was noted between groups of one or more students. However, it was observed that students who worked in pairs at the computer took more computer time than single groups of three or four. This time seemed to have been used to discuss the concepts which were presented (Mason, Blanchard and Daniel, 1983).

Another category of students dealt with adult non-readers or GED students. The results of these studies seem to suggest that in Adult Basic Education Centers computer-assisted instruction in reading does effect student achievement positively. Students in these programs gained on a average of one entire year in reading grade equivalent after fewer than 12 hours of CAI.

The PLATO GED classes at Menard Prison in Illinois led to a higher percentage of inmates passing the GED than those in non-CAI instruction at a nearby correctional facility.

In conclusion, the limited research on CAI in reading seems to suggest that, for adults, CAI is at least as effective as the conventional method of teaching reading and that CAI might possibly improve students' attitudes toward reading. And finally CAI seems to have most significant impact on illiterate adults or those in GED programs.

The use of microcomputer instruction in developmental education is indeed expanding. Although the most popular microcomputer is the Apple, as networks and user groups are organized, increased use of other systems, such as the IBM PC, will occur. Research also tells us that while microcomputers are not a panacea, they can make a positive impact on student learning under certain conditions with certain populations. The information presented in this paper should assist those in the field who are considering implementing microcomputer instruction ans should provide an incentive to others to share what they have learned so that one day we can truly exploit the microcomputer in developmental education as an art.

Note

* For individuals involved in WCRLA it might be useful to know that fourteen of the fifty-two respondents were from states represented in WCRLA, i.e., Arizona, California, New Mexico, Oregon, Texas, Utah. Only four (4) of the fourteen (14) indicated use of computers in reading. Primary usage was in mathematics and English.

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READABILITY AND HUMAN INTEREST IN BASIC WRITING TEXTS

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In an earlier study of English handbooks (O'Hear and Ramsey, 1983), we noted the problem of wide variability among books in readability of the major content categories (text, example, and exercise) and in artificially high human interest scores generated by the use of impersonal/personal constructions and functional imperatives. While these problems proved significant in handbooks, they present even greater difficulties in basic English writing books because of the intended audience and the generally greater reliance placed on textbooks in day-to-day teaching.

If instructors want to match books to students' reading levels, accurate readability data are important (Longo, 1982). Yet previous studies of textbook readability have not dealt with intra-book readability variation or artificial interest raisers in spite of the fact that doing so is vital to obtaining accurate readability data. This study, then, aimed to examine reading ease and human interest data on new basic English textbooks to see whether they indicate consistent readability and interest. The resulting data provide valuable information for those involved in selecting textbooks.

From the many available valid formulas, we chose the Flesch (1951) because of its frequent use in previous studies (Kavali, Hirshoren, and Hunt, 1976, 1977; Neal and Berryman, 1982; Tankard and Tankard, 1977) and because it makes use of both a reading difficulty scale (as opposed to a grade level determiner) and a human interest scale. Thus it assays two of the main determiners of accessibility to students. The Flesch formula determines reading ease (RE) by the following formula:

$$RE = 206.835 - 0.846wl - 1.015sl$$

wl = word length
sl = sentence length

The result of this formula translates into the following reading ease scale:

90 — 100	very easy	60 — 70	standard
80 — 90	easy	50 — 60	fairly difficult
70 — 80	fairly easy	30 —50	difficult
0 — 30	very difficult		

Flesch calculated the human interest (HI) formula as follows:

$$HI = 3.635pw + 0.314ps$$

pw = personal words
ps = personal sentences

According to Flesch, personal words are all first, second, and third person pronouns (except neuters and forms of "they" which refer to neuters), all words having natural masculine or feminine gender, and the group words "people" (with plural verbs) and "folks." As personal sentences, Flesch counts spoken sentences surrounded by quotation marks, questions, commands, requests, and other sentences addressed directly to the reader, exclamations, and incomplete sentences whose meaning must be inferred from context.

He placed the resulting sum on a human interest scale as follows:

60 — 100	dramatic	20 — 40	interesting
40 —60	highly interesting	10 —20	mild interest
0 —10	dull		

Method

To determine overall readability and interest levels, we applied the Flesch formulas to five related samples each of text, example, and exercise from fifteen books intended for use in developmental English courses (Bates and Stern, 1983; Bell and Klammer, 1983; Clouse, 1983; Cowan, 1983; Gonzalez, Cruz and Thompson, 1983; Hurtik, 1981; Lannon, 1983; McDavid and Creswell, 1983; Macdonald, 1983; Reynolds, 1983; Selby, 1982; Skurnick, 1983; Stith, 1982; Troyka and Nudelman, 1982; Willis, Pence and Gonzalez, 1982). All of these books either were printed for the first time or appeared in new editions in 1981-1983. They thus seem representative of the most current attempts to provide readable textbooks, and they cut across a wide spectrum of approaches to providing students with instruction in writing skills. In future references, these books will be referred to by name of primary author.

Results

Table 1 presents a comparison of the overall reading ease and human interest levels of the books examined, along with their ranks in each area.

TABLE 1
Overall Reading-Ease and Human-Interest Levels

	RE	RANK	HI	RANK
Bates	70.3	5	28.8	8
Bell	60.5	14	17.1	15
Clouse	65.9	10	36	3
Cowan	68.2	6	23.9	13
Gonzalez	55.1	15	22.3	14
Hurtik	67	9	29.6	7
Lannon	65.7	12	28.7	9
McDavid	67.6	8	31.1	5
Macdonald	71.8	3	34.8	4
Reynolds	77.2	1	54.3	1
Selby	68.1	7	40.3	2
Skurnick	73.7	2	25.9	12
Stith	71.5	4	28.2	10
Troyka	65.9	10	27	11
Willis	61.7	13	30.5	6
Mean	67.3		30.6	
Median	67.6		28.8	
Standard Deviation	5.48		8.65	

At first glance, the Reynolds textbook seems both the most readable and the most interesting, with the Macdonald book a distant second. The Bell and Gonzalez textbooks seem to run a dead heat for least readable and least interesting. Reynolds scores a standard deviation from the norm in a positive direction in both areas; Bell does the same in a negative direction. Shurnick is a standard deviation from the norm in a positive direction in reading ease; Selby duplicates this feat in human interest. Willis and Gonzalez are a standard deviation below the norm in reading ease.

When we look at the distribution of individual samples of text, examples, and exercises within each of Flesch's readability levels, we find the variation indicated in Tables 2 and 3.

TABLE 2
Readability Range of Reading Ease Samples

	Very Easy	Easy	Fairly Easy	Standard	Fairly Difficult	Difficult	Very Difficult
Bates	1	1	8	2	2	1	-
Bell	-	-	3	6	2	1	-
Clouse	-	-	6	5	3	1	-
Cowan	1	4	-	4	5	1	-
Gonzalez	-	-	1	3	7	3	1
Hurtik	2	1	4	3	2	1	1
Lannon	1	-	3	7	1	2	1
McDavid	-	3	4	4	4	-	-
Macdonald	1	-	8	4	1	1	-
Reynolds	-	5	7	3	-	-	-
Selby	-	2	4	5	4	-	-
Skurnick	-	4	5	4	2	-	-
Stith	1	2	4	6	2	-	-
Troyka	-	2	4	5	3	2	-
Willis	-	1	3	5	3	3	-

Even though every book except Hurtik maintained a majority of reading samples at two contiguous levels, only the Reynolds book has selections on as few as three levels. Five books have samples scattered over six levels; ten have at least 20% of their passages at three or more different levels. Reynolds and Macdonald still seem to uphold their ratings; Bell, Gonzalez, and Willis also seem to hold their low levels of readability because of the wide range over which their samples fall. In any event, because so many books have significant numbers of samples extended over three or more reading levels, there is little doubt that most of the books tested are inconsistent in reading level.

Nor does the problem end here. The reading ease scores for text, examples, and exercises are also inconsistent. Table 3 shows reading ease scores for each of the three main content categories for the books studied.

TABLE 3
Reading-Ease Scores by Content category

	Text	Example	Exercise
Bates	64.4	77	69.6
Bell	53.7	64.1	63.8
Clouse	56.4	69.7	71.2
Cowan	56.3	83.7	61.6
Gonzalez	57.7	61.5	44.5
Hurtik	55.2	73.7	71.3
Lannon	56.7	67.3	72
McDonald	60.1	74.1	68.7
MacDonald	67.1	79.4	67.9
Reynolds	74.2	78.9	78.6
Selby	61.8	73.4	69
Skurnick	67.4	75.4	78.4
Stith	65.6	73.2	75.7
Troyka	63.9	71.1	62.7
Willis	63.8	63.5	57.8
Mean	61.6	72.4	67.5
Median	61.8	73.4	69
Standard Deviation	5.71	6.31	8.7

Only Reynolds has text, exercise on the same reading ease level. Four books have text, examples, and exercises scattered over three or more reading levels. Only Reynolds and Willis keep examples and text on the same level. Five books match exercise and example levels. This inconsistency is permitted although examples and exercises which are more difficult than text may work against learning by confusing students, making them think that they must have missed something when in fact they understood the text correctly. At the very least, unnecessarily complicated examples and exercises may fail to provide the clarification or practice for which they are intended. If, on the contrary, the text is more difficult than the examples or exercises which support it, it may either be over the reader's head or the exercises and examples may seem trivial to the reader. In the first case, no communication, let alone learning, takes place; in the second, what students can understand in principle they may not learn to apply.

Human interest data present similar problems. These data are presented in Table 4.

TABLE 4
Distribution of Human-Interest Data

	Dramatic	Intrest High	Interest	Mild Interest	Dull
Bates	1	3	5	2	4
Bell	-	2	2	5	6
Clouse	2	2	6	2	3
Cowan	1	1	3	5	5
Gonzalez	-	2	5	2	6
Hurtik	2	1	4	1	6
Lannon	-	1	9	2	3
McDavid	1	2	8	3	1
Macdonald	1	4	4	-	6
Reynolds	7	3	3	1	1
Selby	3	4	4	3	1
Skurnick	1	3	2	5	4
Stith	2	4	5	1	3
Troyka	-	4	5	3	3
Willis	1	4	5	1	4

Two of the books (Lannon and McDavid) have a majority of their human-interest scores at the same level; all but two (Gonzalez and Hurtik) have a majority of scores at two contiguous levels. However, eight books have at least 20% of their tested passages at each of three different levels; six have 20% of their passages at each of four or more levels. Stith, Clouse, and Hurtik have at least two passages each at the dramatic and dull poles. As may be expected, the dramatic scores occur in exercises, the dull ones in text.

The number of scores at the dramatic/high interest pole may be deceiving. While these scores imply that the books surveyed attempt to draw student interest, this is not necessarily so. To be valid, high interest scores should indicate an attempt to draw the reader into the content by use of a highly personalized style; valid scores may, for instance, result from a number of examples or exercises which refer to known people or which introduce characters (perhaps students whose writing is introduced in the book as exemplary) and which keep on referring to them until a dramatic context has been established. For example, Hurtik uses the following exercise sentences referring to well-known people: 9) "Robert L. Stevenson wrote children's stories....12) Stanley finally met Dr. Livingston" (pp. 139-40). [Hurtik offers a period, question mark, exclamation point, or nothing as the blanks' proper occupants.] In Skurnik, we find many exercises consisting of related sentences which establish a context for interest enhancement. On page 197, we find the following passage in a discussion of verb tense: "The wireless telegraph was given spectacular publicity in 1910 when it led to the arrest at sea of Dr. Hawley H. Crippen, a U.S. physician who had been practicing in London, murdered his wife, buried her in the cellar of their home, and fled the country with his secretary aboard the liner *Montrose*. The secretary was dressed as a boy and the pair travelled as Mr. Robinson and son. Captain George Kendall of the *Montrose* became suspicious of the Robinsons...."

But cautions are needed. These and other techniques which produce high interest scores may do little to involve the student personally. For instance, although Hurtik, in the examples cited above, mentions real people, these people may not be recognized by the students. If recognition does not occur, the names are no more real than names pulled from the air. Even if recognition occurs, however, the context is frequently not a meaningful one. The famous person is a name tag; he/she does not need to be remembered for testing, nor is the person germane to the subject matter of the course. Compare, for instance, the import of Lincoln in an American history course to his importance in a writing course. A greater problem is reflected in the frequent use of impersonal/personal nouns and pronouns having no reference to any person outside the single sentence in which they appear. The sentence "Photography is Dan's favorite pastime" (p. 189), appears in Hurtik. "Dan" has no previous or subsequent existence in the book. Although Dan counts as a personal word, mention of him generates no more personal interest than would the words "elephant" or "dog." A similar problem exists in Skurnick's exercise. If the context is of interest to the reader and/or related to the students' own life experience, it has legitimate value. However, to the extent the context is remote from student interest/concern, the passage will be less effective. Just as with the famous person, characters in exercises may be remotely related to course subject matter. The interest value potential here seems less than face value.

A further concern involves lists of personal words used to make a grammatical point. When authors discuss personal pronouns, they frequently list these pronouns. This kind of list is scarcely personal despite the presence of "I," "you," and "we." Since these words are not associated with any real person, Flesch's criteria notwithstanding, they are not personal words. The same applies to pronouns and personal nouns used to help illustrate verb parts, capitalization, etc.

Inflated human interest scores can also result from extensive use of the impersonal command structures so typical of handbooks (O'Hear and Ramsey, 1983). "Avoid coordinating ideas that cannot be sensibly connected," says Lannon at one point (p. 113). Using an authoritative tone in such passages may or may not be to the reader's taste, but such commands (or rather commandments) have a distinctly general rather than a personal flavor. They are addressed to a large, anonymous body of people who need/want to know certain specific information, not to the reader as an individual. In view of the widespread existence of these two devices, the Flesch human-interest ratings must be used with care. In fact, for accurate formula usage, such commands, as well as impersonal/personal words, should not be counted.

TABLE 5
Human-Interest Scores by Content Category

	Text	Example	Exercise
Bates	11.9	37	37.5
Bell	11	23.5	16.9
Clouse	24.4	45.4	38.7
Cowan	15.2	36.1	23.5
Gonzalez	9	36.1	23.6
Hurtik	16.7	48	22.2
Lannon	19.1	26.8	40.3
McDavid	21.5	39.1	32.8
Macdonald	11.8	40.7	52.1
Reynolds	31.8	79.9	51.3
Selby	14.8	48	58.2
Skurnick	11.8	25.2	40.7
Stith	9	42.2	33.5
Troyka	27.2	26	27.1
Willis	8.9	38.7	43.9
Mean	16.3	39.5	36.2
Median	14.8	38.7	38.7
Standard Deviation	7.1	13.77	12.13

Table 5 shows another problem with human-interest scores. Only Troyka and McDavid have all scores on the same level (interesting). Only eight books have two or more scores averaging at the same level. Only Troyka and McDavid have text and examples on the same level. Four books have text and exercises on the same level. Seven have example and exercise on the same level. It is easy to conclude that meshing these two areas is easier than meshing either one with text. In no case is text more interesting than examples or exercises, the mean scores of which are one category higher (interesting) than that of text (mildly interesting). In many individual books the range of these three categories extends over three or more levels: Stith, 4; Willis, 4; Selby, 3; Skurnick, 3; Reynolds, 3; Gonzalez, 3; Hurtik, 3; Lannon, 3; Macdonald, 3. All of this indicates a serious inconsistency problem among basic writing textbooks.

A final problem affecting readability and interest is that few books contain roughly equal amounts of text, exercise, and example. Amount of text varies in books tested from Cowan's 61% to Hurtik's and Stith's 16%; exercise variation ranges from Hurtik's 74% to Cowan's 15%; example varies from Macdonald's 28% to Hurtik's 10%. Text readability must be rated of higher import in books such as Cowan's where much of the book is devoted to explanations. In Hurtik, exercise readability is more significant. Whatever category seems primary in a textbook must be weighted most strongly.

Finally, then, using the Flesch formulas to gain insight into basic English writing textbooks seems a hopeful enterprise. Beyond providing valuable general data for instructors concerned with matching books to the ability levels of their students, the formulas can be used to reveal inconsistencies in readability and human interest levels which substantially weaken books, which, at first glance, may appear to be very strong. A textbook which confuses or bores students certainly impedes education, and instructors who do not take advantage of such readability and interest tests in book selection operate at a disadvantage they could easily overcome.

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MICROCOMPUTERS AND COLLEGE LEARNING: A LOOK AT THE FUTURE

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Alvin Toffler (1981) in *The Third Wave* says that ". . . computers are enhancing our brain power much the same as machines enhanced our muscle power during our industrial era." No analysis of future directions of college learning centers is complete without a consideration of the impact that computers will have on the centers. Computer literacy will become as important as basic skills in education, so college developmental educators must be cognizant of the latest computer developments. In *Megatrends*, John Naisbitt (1982) points out that "although computer use in public education is still in its infancy, schools around the nation are beginning to realize that in the information society, the two required languages will be English and computer." In addition to the obvious need for computer literacy is the seemingly infinite flexibility of the educational computer. "The promise of personal computing for teaching and learning is that instruction can be uniquely adapted to each student" (Deken, 1982, p. 249).

Our 1983 survey of literature and research points to 10 major trends for computers in education. The future of adult education holds major changes as microcomputers are used more effectively in almost every area.

Trends

1. Computer-assisted instruction [CAI] will be effective with low-ability students because it is a new approach to learning (Emmett, 1983). Students who have had trouble with learning and with books will embrace computer learning because computers are interesting, fun, new and different. Computers also are infinitely patient and able to repeat exercises in a skill until students feel they have mastered it. In fact, schools now are reporting that the greatest impact computers have had has been social, and this is especially evident in the amount of enthusiasm that students show toward computers. Even more impressive is the fact that students using computers show much more enthusiasm for school in general (EDUSA, 1983).

CAI also takes less time than traditional instruction to achieve the same results (Forman, 1982). Any time students can learn faster, motivation and enthusiasm are apt to remain higher. In general, students learn more, retain more, or learn the same amount faster when using computers. Unfortunately, no studies have been completed yet that tell us *why* that may be (Bracey, 1982).

2 Studies of CAI and computer-managed instruction [CMI] will proliferate in the late 1980's and 1990's. Microcomputers sprang into education so recently that just five years ago, few educators knew anything about them. Even now, teachers who have been actively working with microcomputers for a few months can become the self-appointed computer experts in their colleges. Not enough time has elapsed for long-term studies, and few researchers are doing any studies comparing CAI with other teaching techniques (Forman, 1982). One reason for the dearth of comparative studies is that CAI seems so promising and exciting that researchers are loath to deprive students by forming control groups.

We should soon begin to see studies explaining why CAI works, what its long- and short-term effects are, and how best to apply CAI in college learning centers. Future research may focus on different methods of instruction in CAI programs. "Such teaching techniques as language experience, phonolinguistics, whole word and Great Books, along with other teaching innovations, should be investigated in relation to their suitability for computer instruction" (Marsh, 1983).

Some computer experts feel that the affective outcomes of CAI are more important than the achievement outcomes (Bracey, 1982), and future studies will undoubtedly emphasize students' reactions to this new way of learning.

3. Commercially available software for adult education will expand. The better educational software in 1983 tends to be at the elementary level (Lathrop, 1983). Publishers will have to recognize that adults learn differently from children. Since more adults are returning to college, this adult population will become an increasingly viable market for publishers.

Individual development of software will be increasingly downplayed, since using commercial software is usually much more time- and cost-effective. It takes 200-300 hours of development to come up with a useful program (Emmett, 1983). Teacher authoring systems such as Apple SuperPilot are time-consuming and limiting, with drawbacks such as student responses that must be short and exact. Most college teachers today choose to adapt a not-quite-perfect textbook rather than attempt to write their own; the same will be true of CAI programs.

The quality of CAI programs will be enhanced through the use of software-development teams. Courseware will be developed by two or three content-area specialists, an instructional design specialist, and a computer programmer (Forman, 1982). Creating CAI is more difficult than writing a textbook; good programs should go beyond the mere adaptation of traditional programmed written materials to a computer format.

CAI demand will create an expanded CAI market. Currently, the educational market for software is about $28.5 million a year, while at the same time schools spend about $1 billion on printed materials (Aeppel, 1983). Of course, publishers now are funneling their efforts toward business and home applications. As college demand more of computer software and spend more on it, however, publishers will respond by developing more materials for the college market.

4. As cost-effectiveness becomes an even more critical issue in education, computer solutions will gain importance. Computers will be used by administrators to keep track of budget statistics and other management data. Managers of college learning centers will be held accountable for exact cost and attendance statistics.

Handicapped or remote students, who are now being served at great expense, will be educated more efficiently and cheaply with microcomputers and CAI. In Alaska, students who live in rural areas are already using Individualized Study by Technology (IST) to learn Alaskan history, math, reading, English, U.S. history, science, consumer education, and health education.

5. Developmental educators will be responsible for teaching students reading, writing, math, and computer literacy. Luehrmann (1980) contends that "the ability to use computers is a basic and necessary to a person's formal education as reading, writing and arithmetic." By 2000, computer literacy will be an essential basic skill, and adults who have not had a chance to become familiar with computers will look to community colleges to fill this educational void.

The trend will be away from programming skills and toward computer awareness. A computer-literate adult will need to use and evaluate computer software; understand the social, psychological, and economic impact of computers; and make use of computers in an intelligence way. An analogy underscores this point. When cars were first manufactured, people believed they would need to possess mechanical skills to keep and use a car. Soon, most people realized that knowledgeable drivers could operate their vehicles as long as competent car mechanics were available. We will certainly need computer programmers and experts in computer technology, but most of us will find that becoming intelligent users of computer software is a time-consuming goal in itself.

6. College faculty and administrators will not have the option of remaining ignorant about computers. Computers will be used for administrative applications, curriculum planning, word-processing in composition and business programs, computer graphics in art, computer-aided design in drafting, library databases, math drill and practice, biology simulations, students' reviews for tests, and a variety of other CAI and CMI (Brady, 1983).

Indeed, computer literacy will be required for new teachers, and college faculty who are looking for job changes will find it hard to be hired without some computer background.

Computers will aid and expand educators and must not be perceived by faculty as threatening. *Megatrends* (1982) points out that in the information age of the future, high tech will be a given and "high touch" will become critical. Loosely interpreted, this means that computers will be ubiquitous in education, but the human touch of teachers will be of increasing (if changed) importance.

7. *CAI will function on a wider variety of levels--drill and practice, tutorials, demonstrations, simulations, and games.* Currently much of the available CAI is at the drill-and-practice level. A 1980 study showed that 77 per cent of then-current language-arts software was drill of isolated skills (Geoffrion, 1983). By 1983, however, at least a dozen college English departments around the country were experimenting with computer programs that aid students with pre-writing, writing, and editing tasks. At Colorado State University, composition students type themes on a computer, and a package of programs called Writer's Workbench prints the theme with comments covering 17 mechanical and stylistic functions (organization, percentage of passives, reading level, sentence variety, diction errors, grammatical mistakes, etc.). More students will be using word-processing programs for all written work (McWilliams, 1983).

The future holds hope for more programs at the simulation level. Dynamic, interactive CAI will be available in increasing quantities.

8. *More sophisticated technology will enhance the use of computers in education.* Computers will have more memory and will use hard disks that can't crash (Roblyer, 1982). New methods will allow users to circumvent the keyboard. A lack of typing skills will not be the impediment it is currently. Microcomputers will proliferate, and networking will be widespread. Replaceable read-only memory chips will allow for easy modification of system software, solving the problem of transferability that has plagued CAI developers so far (Forman, 1982).

9. *More professional organizations will evaluate and offer advice about commercially available CAI* (Forman, 1982). Organizations like CONDUIT will flourish. CONDUIT is a nonprofit organization whose purpose is to promote the use of instructional computing at the collegiate level. It seeks to accomplish this purpose by providing instructors with ideas, curriculum materials, and information about instructors and development teams who produce computer-based learning materials (*Pipeline*, 1983, introduction). Organizations such as NARDSPE and the Western College Reading and Learning Association will include columns on CAI in all newsletters and publications.

10. *CAI will be planned for and incorporated into the mainstream of adult education instead of remaining the added-on features it is now.* Educators will realize that computers must be designed into the school instead of added on later (Lipsitz, 1983).

Instead of the haphazard acquisition of a few computers and a little software, systematic planning processes will be implemented. Colleges will set objectives, determine how best to achieve them, decide which CAI will help, and implement and evaluate programs (Conkling, 1983). CAI is not a panacea; it should be planned for and used only where it is appropriate.

Conclusion

The future of college learning centers will be closely tied to the future of computers in education. Major changes will occur in computer-assisted instruction, in technology, and in our instructional process. Students will be able to learn better and faster; faculty will become more knowledgeable about CAI, and administrators will expand their use of applications.

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ASSESSMENT AND PLACEMENT IN LANGUAGE ARTS COURSES: THREE MAJOR TESTS

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Community colleges in California are looking increasingly at issues of accountability. In March, 1982, the Board of Governors of the California Community College system passed a resolution to require students matriculating in Fall of 1983 or thereafter to demonstrate proficiency in reading, writing, and mathematics in order to qualify for the associate degree. The 1983-1984 matriculation study by the Chancellor's Office is looking closely at current models of admissions and placement procedures. As a result of this interest, California colleges are examining and discussing assessment testing with more interest than has been apparent in more than a decade. A review of recent studies regarding major instruments for assessing reading and writing, as well as a 1983 survey on the use of and satisfaction level of some of these instruments at 99 California community colleges (Rounds, 1983) provides a wide range of data regarding test usefulness for placement of students in reading and writing programs.

Although math testing is gaining in importance, the major testing focus has been and continues to be on English placement. This paper will examine data on three English assessment tools, The Cooperative English Test, the Comparative Guidance and Placement Test, and the Test of Standard Written English; as well as two reading assessment tests, the Nelson-Denny and the Minnesota Reading Assessment.

Research about Writing Assessment Tests

The Writing Sample

The use of a writing sample is considered by many to be the most effective, albeit expensive, way to place English students. Colleges, however, have continued to search for a reliable, but less expensive way of placing students in English courses than the essay sample. In the 1983 study of 99 California community colleges, 85 colleges (85.9 percent) indicated they required or recommended an objective exam for placement (Rounds, 1983).

Cooperative English Test

The Cooperative English Test (Co-op) is still widely used for English skills assessment, although it is one of the older tests. The study or California community colleges indicated it was in use at ten colleges (11.8 percent), a greater number than using any other single published instrument. Its satisfaction level, however, at 3.85 on a scale of 1 to 5 (5 being high), was lower than the other two English assessment tests we will discuss below.

Kilpatrick's 1968 study examined the scores of 3,528 entering California community college students who took the Co-op. Of this group, 2,840 had also written an essay; in addition, a smaller number had also taken the SCAT or the Purdue English Test. Using multiple correlation and multiple regression, Kirkpatrick found the best predictor for these students seemed to be a combination of the Purdue, the written essay, and high school grades.

He observed that the test actually used as the single placement criteria--the Co-op--never ranked higher than seventh on the scale of effective predictors; its correlations ranged from .14 to .35. Kilpatrick urged that, for best results, several instruments should be used to assess for placement and that multiple correlation or multiple regression analysis should be employed on the scores (Kilpatrick, 1968).

A 1971 study at a Canadian community college looked at the predictability of both the Co-op and the Dvorak-Van Wagenen Diagnostic Test. The Van Wagenen tests were not effective as predictors of either grade point average or English course grades; the Co-op was useful as a predictor of English grades but not as a predictor of GPA. The authors concluded that standardized tests such as the two examined had "little, if any, value as indicators of performance in freshmen courses at a community college" (Janzen & Johnston, 1971, p. 169).

A study by Schiavone (1977) also rejected the Co-op as not sufficiently predictive for community college students. However, Cohen and others (1974) compared the Co-op with a written essay for a group of 204 community college students and found the Co-op did distinguish between those who needed remediation and those who did not.

Two other tests that have received some support for being effective as a substitute for essays are the Written Expression subtest of the Comparative Guidance and Placement (developed in the mid '60s for use at the community college by the Educational Testing Service) and the Test of Standard Written English (offered by ETS in 1975). These two tests scored the highest in satisfaction averages, both at 4.17, of all the major instruments named in the study of 99 colleges cited above.

Comparative Guidance and Placement Battery

The Comparative Guidance and Placement battery (CGP) was used by nine colleges (10.6 percent of objective test users) in the California study, ranking just below the Co-op in use. One respondent indicated: "We have carefully reviewed the research comparing essay and objective English placement tests, and we have found the validity and reliability to be equal" (cited in Rounds, 1983)

The CGP was adopted by the Virginia Community Colleges System in 1971 after intensive examination of various alternatives, and a subsequent study by Reed (1972) concluded that the battery was a reasonable test to use for placement. Reedly College (now Kings River) in California compared the CGP with ACT and SAT for predictive value and found no significant difference (Clark, 1973) and so chose the CGP as a less expensive test to offer. It is still in use at this college.

A 1974 study examining the predictive usefulness of the CGP for 417 liberal arts majors and 316 business majors at a New England community college found correlation coefficients of approximately .50 with end-of-year GPA's; the authors felt the predictive validity of the CGP was moderately supported (Elterich and others, 1975).

The CGP was also studied at a North Carolina community college by comparing the scores of 1,006 freshmen with their first quarter GPA's. Conclusions were that the CGP battery was an effective placement instrument for identifying students who are likely to be successful as well as those who are likely to be unsuccessful (Roach, 1976).

On the negative side, Jongsma (1980), in a test review for the *Journal of Reading*, reported a predictive correlation of only .28 between the CGP reading subtest and subsequent English grades. This correlation was improved, however, by adding the English Expressions subtest to the reading subtest. In 1978 New Jersey and the University System of Georgia, both of which had been using the CGP, dropped the battery in favor of state-designed systems (Mitchell and Smith, 1980; Chang, 1980).

Test of Standard Written English

The Test of Standard Written English (TSWE) is another test often recommended to replace individual essays. It was named by 6 colleges in the survey cited above (7.1 percent of objective test users); satisfaction as for the CGP, was at 4.17.

Breland (1977) cites a study of 2,028 student essays from 12 different colleges, in which the grades were compared with scores on the TSWE. Eighty-eight percent of those who scored very well on the TSWE wrote above average essays, and none with a high essay score achieved less than 40 (out of 61) on the TSWE.

Osterland and Cheney (1978) compared TSWE results with course grades and with holistically scored essays. They found a correlation of only .41 with course grades but a correlation of .61 with the essay scores.

Hoffman and Smith (1980), reporting on a study of 109 freshmen at Florida Atlantic University, concluded that the TSWE does discriminate among students as well as most standardized tests of achievement, although the shorter subtests of spelling and paragraph organization were of "minimum benefit in identifying potentially successful writers" (p. 170). They suggested that an effective compromise would be to establish a fairly high level of mastery on the TSWE and exempt anyone scoring above that level from writing a placement essay. Only students scoring below mastery would write an essay.

Objective Exams Used for Reading Placement

Nelson-Denny Reading Test

The Nelson-Denny Reading Test (NDRT) appears to be the most widely used test to assess reading skills (Roueche & Snow, 1977; Maxwell, 1979), although its satisfaction average is lower than those averages of a number of other instruments. Becker's 1973 survey of 61 California community colleges found 40 colleges responding that they used a reading test, 33 percent of these used the NDRT. Roueche and Snow (1977) found 41 percent of 131 community colleges indicated use of the Nelson-Denny; the Rounds (1983) study of 99 California community colleges found 76 percent reporting use of a reading test (either required or recommended), with only 18 (24 percent) using the NDRT. Satisfaction average was 3.53.

Others have indicated low general satisfaction with the Nelson-Denny. Responding to a 1974 questionnaire sent to 40 community colleges in North Carolina and Virginia, one community college indicated, under the "anticipated change" category: "Stop using the Nelson-Denny" (Swofford & Swofford, 1974). A 1978 study of 275 freshmen who were programmed into remedial reading courses on the basis of their Nelson-Denny scores, concluded that a score of 12th grade on the Nelson-Denny should *not* be the determining factor as to who should take remedial reading: that score was too high (Washington, 1978). Others have found the reading selections too threatening for many entering community college students (Shaw, 1982).

In another study of 24,000 freshmen at Texas A&M, who took both the NDRT and the SAT, a relationship of .79 was found between the NDRT total and the SAT-Verbal; the authors suggested there was enough overlap that the NDRT would not be needed as a placement tool if the SAT scores were available (Erwin & Millikin, 1980).

On the other hand, a 1976 study of freshmen at Amarillo College in Texas found that reading achievement, as measured on the NDRT, had a significant relation to grade point average and course load average (Henard & Stenning, 1976). The NDRT was also correlated with overall GPA and success in English classes for 525 community college students (Spiller & Hall, 1978), and a small but significant positive correlation was found between test scores and English grades. Attrition was also predicted by test scores, as only 18 percent of those who scored below the tenth grade level were still attending two years later, as compared with 44 percent who scored at and above the tenth grade level.

Lithicum (1980), who included the NDRT in study of several instruments used with developmental and non-developmental students at Dundalk Community College in Baltimore, found that "none of the tools were particularly strong in predicting the success of students with severe developmental needs" (p. 50). The NDRT, however, was a good predictor for traditional, non-developmental students.

Minnesota Reading Assessment

The Minnesota Reading Assessment (MRA) is a reading test designed for developmental students and normed at community colleges. There are few studies yet available on this test, but Raygor, the author, reported a study showing a .85 correlation between the MRA and the Gates Survey E in a vocational-technical institute (1981). He also reported that a study of 81 community college students found the MRA to be more predictive of grades in English courses (.58 correlation) than the Descriptive Test of Language Skills--Reading (.52) or the locally developed English Placement Test (.35). The California study found only one college currently using the MRA (Modesto College), where it was given a 4.0 satisfaction level.

New Instruments on the Market

It is not the purpose of this paper to comment on research related to use of the American College Test (ACT) or Scholastic Aptitude Test (SAT) at the community college level. Neither of these tests is in wide use as a placement instrument in California community colleges (Rounds, 1983), partly because, as has been observed for some time, they tend not to discriminate well on the lower end of the ability scale (Monroe, 1972). Publishing companies for both tests, however, are currently developing and promoting new test entries for community college assessment, a market that is perceived as a lucrative one.

ACT has been piloting its Asset package, which includes the test, orientation and advising procedures, and back-up research in Southern California, where it has been well-received (Scheer, 1983). ETS has just begun to make available its new package, which has been developed for use on the computer and provides an infinite variety of questions modified for each student's ability, as well as diagnosis of problems (Educational Testing Service, 1983).

There can be no question but that ACT and ETS are correct in assessing the market as a very good one. The push for accountability and assessment is a major movement and will be with us for some time. As professionals we can be pleased at the energy going into the development of more effective tools to help us with our students, but we must also be concerned and cautious about the clear potential for abuse when testing falls into insensitive hands. It is essential that we develop our own pool of information and expertise as the new materials become available and that we find a means to share this information with one another.

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EXPLORING LEARNING STYLES OF MINORITY STUDENTS: AN ALASKAN STUDY

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The academic pathway for minority students often has been marked by cultural repression, covert racism, and scholastic failure. Of all minority students, Native Americans have consistently been identified as the most under-represented in American colleges and universities (Crossland, 1971; Astin, 1982). Only about 27% of American Indians enroll in college following high school (compared to almost 50% of white students); even this figure may be inflated due to the high number of students who report themselves as American Indians without substantiation (Astin, 1982).

Because of factors such as geographical isolation and rapid cultural and economic change, Alaska Natives have fared even worse educationally than their counterparts in the contiguous 48 states. At the University of Alaska, Fairbanks, the oldest branch of the statewide university system, only about half as many Native students complete their college degree as do non-Native students (Kleinfeld, Travis & Hubbard, 1981). At the campus in Juneau, the smallest in the statewide university system, recruitment is as much of a problem as retention. With a Native student population of less than 10%, this branch of the university currently offers no special services program for minority students, although the need for such support has become increasingly evident (Wauters, 1982).

Insufficient academic preparation is often cited as the reason for Native student failure in postsecondary institutions, yet this factor alone does not account for the phenomenally high student attrition rate. Cultural conflict between Native values and those of dominant white society plays an important role, too. Many Native students feel alienated from the traditional educational system, which is often unwittingly biased against minority students with different styles of communicating and learning.

In recent years educators and psychologists have begun to study students' cognitive and affective patterns in an attempt to understand better how different individuals learn. Results from such studies support the notion that minority students have different learning patterns than dominant culture students. For example, while most right-handed people are believed to be dominant in the left hemisphere of the brain, which services as the primary language center, studies of ethnic minorities and poor whites indicate that this pattern often does not hold true for them (Roueche & Mink, 1980). Native American students as a group tend to be dominated instead by the right hemisphere of the brain, which perceives things more holistically than the analytically oriented left hemisphere (Cattey, 1980; Ross, 1982).

Individuals dominated by the right hemisphere tend to synthesize patterns and processes rather than to break them down into their component parts, yet American education concentrates almost entirely on learning activities which require high analytical and verbal skills. Thus, Native students' failure to adapt to a scholastic system based on the linear logic of Western philosophy might be rooted in their more holistic perception of the world.

Native students' scores on ability tests also indicate possible differences in perception and information processing. Native American students tend to score lower than whites on tests of verbal ability; in fact, English is the subject most often failed by Alaska Native high school students (Ray, 1962). However, they are typically above average in motor skills and visual discrimination (John, 1972). Kleinfeld's work on the cognitive strengths of Eskimos (1970) also affirms these visual and tactile superiorities. Eskimo children have above average abilities in perceptual analysis and image memory, demonstrated by talents in map-making, mechanical skills, and artistic ability. Village Eskimo children surpassed urban white students of similar ages on a measure of image memorization; on another test of analytic functioning in perception, adolescent Eskimos performed at the same level as Harvard undergraduates.

In order to learn more about incoming freshmen at the UAJ, a study was conducted with high school students in Southeastern Alaska. Seniors were tested throughout the region in both verbal skills and learning styles. It was intended through these two measures to discover which learning patterns and preferences would emerge as important factors to consider when designing a developmental program for this population.

Many learning style measures have been developed within the past ten years in response to theories of how individuals function cognitively. For use with Alaska Native students, the Dunn Learning Style Inventory (Dunn, Dunn, & Price, 1975) was selected because it seemed to yield the most complete analysis of learning style factors. However, since the original Dunn LSI was designed for younger students, the adult version called the Productivity Environmental Preference Survey (Dunn, Dunn, & Price,

1979) was used, which seemed to be more appropriate for high school seniors.

To measure verbal skills, two tests from the Comparative Guidance and Placement Program of the Educational Testing Service were chosen: The Reading Placement Test and the Written English Expression Placement Test (Comparative Guidance and Placement Program, 1972). Since these measures are used for placement purposes at the University of Alaska, Juneau, their selection gave students the added benefit of learning their English placement recommendation if they planned to attend UAJ after graduation from their local high school.

Method

Subjects

Two hundred students from eight different high schools throughout Southeast Alaska were tested: Juneau, Klawock, Hydaburg, Mt. Edgecumbe, Wrangell, Petersburg, Hoonah, and Metlakatla. All senior students were included, except in Juneau where students were randomly selected.

Of the 200 students tested, 93 were female and 107 were male; 112 were Native and 88 were non-Native. Persons who reported to be one-quarter or more Native were classified as Native subjects (the criterion established by the Bureau of Indian Affairs).

There were 138 students from rural areas and 62 students from urban areas. Subjects were classified rural or urban depending on where they had resided the majority of consecutive years. Juneau, Alaska's third largest city with a population of nearly 25,000, was classified as an urban community. All other communities, which have a population of less than 25,000, were designated as rural areas.

Procedure

The testing process took approximately 2 hours. First, subjects were given a brief introduction regarding the testing process. Next, the students filled out an informational cover sheet to gather demographic information. Last, they completed three tests: 1) Written English Expression Placement Test (WEEPT, Comparative Guidance and Placement Program of The College Board, 1976); 2) Reading Placement Test (RPT, Comparative Guidance and Placement Program of The College Board, 1976); 3) Productivity Environmental Preference Survey (PEPS, Dunn, R., Dunn, K., & Price, G.E., 1979). Both the WEEPT and the RPT were timed, and were self-corrected by students at each site. These tests were later rescored for accuracy. The PEPS Inventory was computer scored, and profiles as well as interpretive information were mailed to the respective school counselors.

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Results

PEPS

Figure 1 depicts the PEPS learning style profile of Native subjects only. The PEPS mean is 50; the dotted lines at 60 and 40 represent one standard deviation above and below the mean. Natives scored more than one standard deviation above the PEPS norm on the following 10 variables (in descending order): Motivated, Kinesthetic, Persistent, Several Ways, Structure, Visual, Responsible, Authority, Learning Alone, and Tactile. Natives as a group scored more than one standard deviation below the PEPS norm on only one variable: Warmth.

Figure 1
Native Learning Style Profile

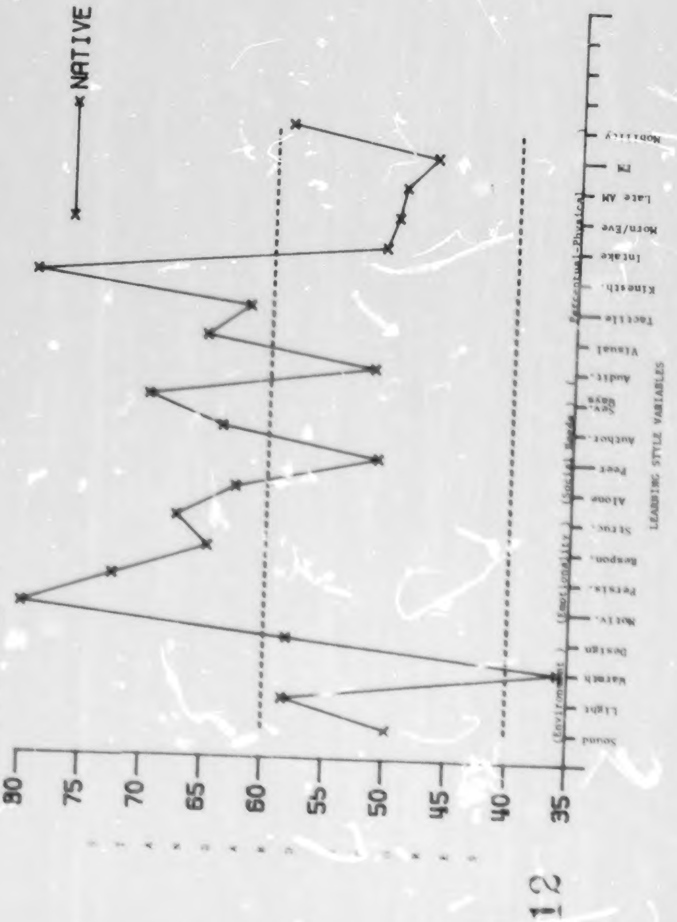
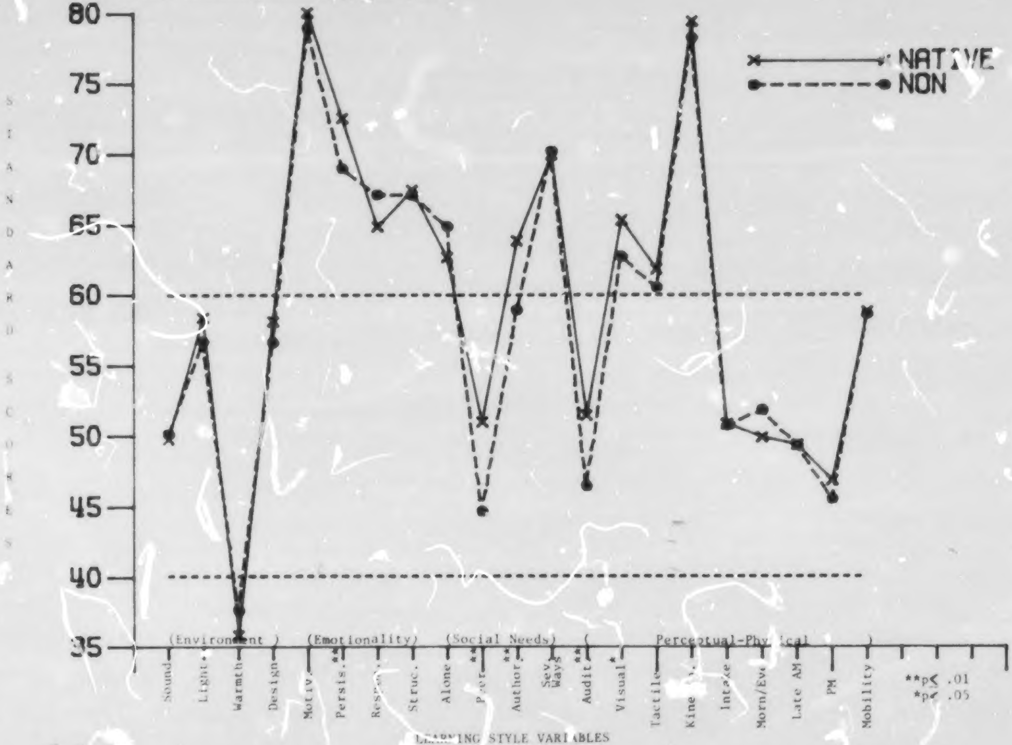


Figure 2 adds the PEPS profile of non-Native subjects, who were found to have a similar profile to their Native peers. Both profiles are very different from the PEPS norm (40-60). A one-way analysis of variance found differences between Natives and non-Natives on the following 5 variables: Persistent, Peer, Authority, Auditory, and Visual.

Figure 2
Native vs. Non-Native Learning Style Profiles



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In order to investigate further the differences between the Native and non-Native profiles, a step-wise discriminant analysis using the Statistical Package for the Social Sciences (SPSS) was computed (see Table 1). The following nine variables appeared to be the most influential in discriminating between Native and non-Native students: Peer, Responsible, Persistent, Auditory, Authority, Structure, Morning/Evening, Light, and Tactile. These 9 variables were found to correctly classify Native and non-Native subjects 71.5% of the time.

Table 1

Standardized Discriminant Function

Coefficients for Discriminant Analysis:

Native vs. Non-Native for PEPS Learning Style

Step Number	Variable	First Discriminant Function	Wilks' Lambda when entered
1	Peer	.47	.88
2	Responsible	-.58	.86
3	Persistent	.56	.82
4	Auditory	.26	.80
5	Authority	.46	.79
6	Structure	-.30	.77
7	Morning/Evening	-.27	.76
8	Light	.21	.75
9	Tactile	-.22	.75

Native N = 88
Non-Native N = 112

Total N = 200

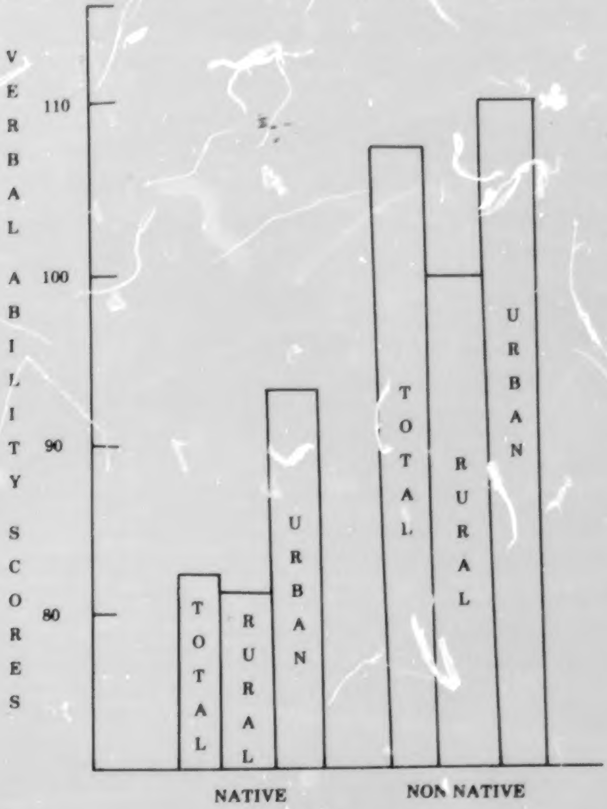
WEEPT — RPT

Standard scores from the WEEPT and the RPT were combined and termed a "verbal ability score." As shown in Figure 3, the verbal ability scores were tabulated by community size (rural vs. urban) and ethnicity (Native vs. non-Native). Using a two-factor analysis of variance, it was found that non-Native students scored higher than Native students [$F(1) = 42.9, p < .01$]. In addition, urban students were found to have higher scores than rural students [$F(1) = 20.8, p < .01$]. There was no interaction between these two factors.

Figure 3

Verbal Ability Scores:

Native and Non-Native



Discussion

Below-average reading ability has been linked to both high school and college dropout rates (McGrath et al., 1962), and some Alaska Native educators consider lack of adequate English skills to be the greatest barrier to academic success for their students (Jacquot, 1974). This concern was substantiated by the low Native scores on verbal measures (Figure 3). The fact that urban Native students outscored rural Natives on the verbal ability measures may indicate that environmental as well as cultural factors may play an important role in determining such test results. However, since scores for both urban and rural Natives were appreciably lower than those of non-Native students, a strong communication skills curriculum should be at the heart of any developmental program designed for this population.

Because the measurement of learning styles is still in the experimental stages, the conclusions reached in this area will need to be substantiated by further research. While developmental research has shown that greater academic gains are made when students' learning styles are accommodated (Bloom, 1976), there are still questions about the validity of the different instruments used to determine learning style (Ferrell, 1983).

One of the concerns with the PEPS inventory is that subjects in this study (both Natives and non-Natives) scored so differently from the norm group. This variation may be due to the fact that the norm group population was self-selected and generally older than the subjects in this study (Price, Dunn, & Dunn, 1979). Furthermore, PEPS was administered to high school seniors in a classroom setting while the PEPS norm group was comprised of undergraduate students and senior citizens who mailed in their responses.

Throughout the discussion of the results of learning style data on Alaska Native students, the elements which have direct implications for developmental instructors have been the focus. Since environmental factors such as time of study, lighting conditions, and temperature are often not directly controlled by the instructor, emphasis has been placed instead on students' cognitive and affective preferences which should affect teaching styles: perceptual preferences, sociological needs, and emotionality.

The PEPS results regarding perceptual preferences underscore the importance of using a multisensory teaching approach with Native students. In addition to outranking other students in their preference for auditory instruction (Figure 2), Native students scored high on kinesthetic, visual, and tactile modalities (Figure 1). These results, which cover the complete range of perceptual preferences measured by the PEPS, indicate that Native students prefer to utilize a wide variety of learning strategies.

The authors of the PEPS suggest specific teaching techniques to match each learning style preference (Price, Dunn, & Dunn, 1979). Kinesthetic learners respond well to experimental activities which require physical involvement such as field trips or live interviews. Similarly, activities for those with tactile preferences should include manipulation of three-dimensional materials and physical models of conceptual plans. These techniques correlate well with traditional styles of education within Native American communities, in which children learn skills by observing and imitating the actions of their elders (Riner, 1979).

The high Native scores within the visual preference category may indicate a preference for non-print materials since inventory questions referring to this preference includes items on graphs, pictures, and diagrams. In addition to suggesting the use of more visual aids in instructional presentations, this preference may make Native students especially good candidates for experimentation with modern technological techniques such as videotapes and computer-aided instruction.

Native students' social preferences within the classroom are as complex as their perceptual preferences, again indicating that a combination of instructional approaches is necessary. Native students demonstrated a greater proclivity for learning with peers than did non-Native students (Figure 2). Yet their highest score related to sociological needs was in the "several ways" category, which shows a desire for varied classroom interactions, followed by preferences for authority orientation and learning alone (Figure 1).

The Native profile suggests that these students appreciate both peer and instructor support more than the non-Native group. The preference for interactions with an authority figure should not be construed to mean that Native students want to be dictated to; instead, it more likely reflects a desire for frequent feedback. It may also reflect the traditional respect for elders which is an important cultural value for Native students in peer support networks through the use of small group work such as discussion circles or collaborative writing projects. Peer tutoring is another method which emphasizes learning as a cooperative venture.

The affective characteristics of Native students are indicated by the PEPS factors which relate to "emotionality." Especially noteworthy among these results is the Native students' perception of their own motivation; they scored more highly on this factor than any of the twenty other PEPS variables, and they were uniformly consistent in their response to this item. Futhermore, Native students scored highly in both persistence and responsibility, and their higher score on persistence was one of the variables which differentiated them from the non-Native students (Figure 2).

These findings regarding motivational perception of Alaska Natives contradict other research concerning self-perceptions of other Native Americans, which indicate that these students possess low self-esteem and lack confidence concerning academic abilities (Martin, 1978; Harris, 1979). Our results might also seem somewhat incongruous with the verbal test scores of these Native students; their persistence rating is higher despite the fact that their verbal scores are consistently lower than non-Natives. However, there are several possible explanations for these apparent discrepancies.

First of all, considering the high dropout rate of Alaska Native students in high school, those who have reached thier senior year have good reason to view themselves as persistent and motivated students. Another related reason which may contribute to these students' positive self-perception is pride in being an Alaska Native; efforts to preserve cultural heritage are now being made in many communities, which has led to an increased awareness of self-identity on the part of young Natives. In addition, issues such as the Land Claims Settlement Act of 1971 and the subsequent formation of Native corporations have led to new visibility and positions of leadership for Natives.

On the basis of preliminary results, a developmental program with the following features to promote Native student success has been recommended: a) a focus on all communications skills (reading, writing, listening, and speaking; (b.) a multisensory teaching approach incorporating experiential activities and instructional modes other than print media; c.) a student-centered class structure which features peer involvement as well as frequent student-teacher interactions; d.) a culturally relevant curriculum which builds upon existing feelings of ethnic identity and pride; and e.) a humanistic environment which emphasizes belief in the students' ability to progress and succeed.

It would be valuable to compare our Alaska Native student's results on the PEPS inventory with those of the other minority populations, particularly Blacks, Hispanics, and American Indians. Do minority groups each possess a unique learning style profile or are they more similar as a whole when compared to non-minority students? Is environment a better discriminator than ethnicity for learning style differences? As researchers explore these and other of our questions, we can begin to build programs which truly fit the learning styles of our minority students rather than trying to shape them up to fit existing programs.

While this study has focused on Native learning style preferences, the implications emanating from the results of this study may apply to a larger audience of minority and developmental students. It is important to remember that the similarities between Native and non-Native Alaskans were far greater than the differences (Figure 2). It is difficult to imagine any students who would not benefit from college curriculm which concerns itself with their total development, both emotional and academic. The humanistic and holistic style of learning which appears to predominate among Alaska Native students may well provide a promising model for learning on a much wider scale.

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A LEARNING ASSISTANCE CENTER'S CONTRIBUTION TO A UNIVERSITY-WIDE RETENTION PROGRAM

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The retention program for high risk students at the University of Texas at El Paso involves faculty and staff throughout the University, and it is this factor that provides its greatest source of success. It is administered by a three-member Executive Council composed of representatives from the faculty, the Office of Admissions and Evaluation, and the Study Skills & Tutorial Services which is the learning assistance facility. These council members, in turn, mobilize the resources under their control to cooperate in a retention effort that impacts over 1,000 new students each year, or approximately one-third of each new freshman class. These students are admitted to the University with the provision that they take certain classes and achieve a minimum "C" average to obtain regular academic status. They are encouraged to accomplish this in one semester. They may receive a second semester's extension if they demonstrate progress toward meeting requirements. Before this retention program started in the Fall of 1981, only 18% to 20% of these provisional students were able to achieve regular-admit status by the end of their first semester. A year and a half later, at the end of Fall, 1982, and with all parts of the new program in place, 31% of these students were able to achieve the required "C" average their first semester. An additional 11% were successful the second semester, for a total of 42% who were able to achieve good academic standing by the end of their freshman year.

The Provisional Student Retention Program has met with initial success because it addresses a wide range of student needs and because so many individuals in the University are involved in its operation. Furthermore, each of the three components represented on its Executive Council have special responsibilities. *The Admissions and Evaluation Component* is responsible for admitting these students, informing them about their status, and analyzing and changing their status each semester. This office also collects data to help evaluate program intervention. The *Faculty Component* plans and executes orientation, which is compulsory for these students, and assigns academic advisors. A pool of 80 to 100 trained faculty and staff advisors provides individual help and counsel for students on provisional status. A Faculty Advisory Council, appointed by the faculty member of the Executive Council and representing all colleges in the University, is consulted from time to time to modify academic policy. Finally, the Faculty Component is responsible for academic counseling and reinstatement. *The Learning Assistance Component,* which is the subject of the remaining portion of this paper, provides mandatory study skills classes, learning assistance labs, and a student volunteer program.

Provisional students at the University of Texas at El Paso are identified as those with combined SAT scores of 800 or below who are also in the bottom half of their high school graduating classes, or those with combined SAT scores of 700 or below who are in the second quartile of their graduating classes. More than two-third of these provisional students are Mexican Americans. The rest are Anglo and Black. The national average Scholastic Aptitude Test score for Hispanic students in 1983, as compiled by the College Board, was 792. Hispanic students, then, who achieve an average score or below for their ethnic group and who are also in the bottom half of their high school class, or who achieve 700 or below and are in the second quartile of their high school class, enter our University classified as provisional. These students have problems that lend themselves to the type of help that learning assistance centers are especially qualified to provide. These students, for instance, are usually learning in their second language, are first-generation college students, and have a minimal knowledge of career and educational opportunities. Furthermore, many of them come from economically disadvantaged households and, consequently, must work to finance their education. Instruction in such topics as time management, educational and vocational planning, and study skills becomes critical if these students are to make a successful start at the University.

The Learning Assistance Component of the Provisional Student Retention Program is holistic. Retention literature has long signalled the need for holistic intervention in retention efforts. Panos and Astin (1968) indicate that as many as three-fourths of the students who drop out do so voluntarily and not because of low academic grades.

Some causes of attrition are the lack of goals expressed as low aspirations and lack of degree plans (Astin, 1975, Tinto, 1975), and lack of social interaction (Nelson, Scott, and Bryan, 1984; Pascarella and Terenzini, 1979; Pascarella and Terenzini, 1980; Tinto, 1982). Conversely, positive associations with retention have been established for learning and academic support (Lenning, Sauer, & Beal, 1980), for peer support systems (Cope, 1978), and for attitudes of service and caring among college personnel (Noel, 1978).

The intervention provided by the Learning Assistance Component addresses students' academic, behavioral and affective needs with study skills classes, learning assistance labs, and the volunteer student program known as S.A.S.S., or Students Assisting Students to Succeed. These components are, furthermore, parts of a larger assistance program that provides extensive tutoring and other non-credit academic support for all students at the University.

Study Skills Classes. Several factors influenced the development of the study skills classes that are now required of all provisional students. We wanted classes that were long enough to make an impact, but not so long that they would intrude on students' study time. We also wanted classes that our budget would allow. During the first semester of the program in 1981, we experimented with a five-weeks, voluntary study skills class that was criticized by both students and faculty as being too short. The second semester we revised the length of this class to eight weeks and continued to teach it on a voluntary basis. At the end of that second semester we consulted our data base to see what effect this study skills intervention had had on the first semester grades of the students who took the eight-weeks class. We discovered that of the new provisional students who got a "C" average, and thereby successfully removed their provisional status, all but two had been enrolled in a study skills class. Furthermore, of the new provisional students enrolled in study skills, 65% were eligible to re-enroll for a second semester either in a cleared or an extended status. Of the new provisional students who did not enroll in a study skills class, only one had cleared, and more than half had made such poor grades that they were ineligible to enroll for a second semester. These results suggested that study skills classes be required of all entering provisional students. The decision was made to do so, starting in the Fall of 1982.

Our present study skills classes are non-credit, free, and last eight weeks. They are taught by graduate students and part-time instructors who attend weekly training meetings to help them learn effective ways to teach the class. We use a common syllabus, textbook, and instructors' manual (Wood, 1982) to keep the classes uniform. The main focus of the class is to improve students' academic communication skills. Instruction includes how to read textbooks and examination questions, how to listen to lectures and assignments, how to participate in class discussion and give oral reports, and how to write examination answers and college papers.

Study skills classes are listed in the University schedule of classes, and students enroll for them at registration as they do their other classes. Students receive grades of "satisfactory" or "unsatisfactory." To receive a satisfactory grade, students may miss no more than three classes, must do daily assignments, and pass the final exam. Their grades are then recorded on their transcripts. Ninety-three percent of the students enrolled in this class have passed it successfully since we made it a requirement for provisional students.

The Learning Assistance Lab. After eight weeks in study skills classes, provisional students then visit the Learning Assistance Lab one hour a week for the remainder of the semester. The overall focus of the lab is to impact student behavior by building student self-confidence. Lab activities help them assess their strengths and weaknesses in a non-judgmental setting and then explore ways to change or learn behaviors that will enhance their chances of succeeding in college.

Lab activities are conducted in small groups and involve regular lab personnel plus counseling center personnel and student volunteers. Described very briefly, learning activities are as follow:

1. Exploration of possible long-terms goals using the Job-0 interest inventory and career counseling.
2. Identification and adaptation of personal learning styles using the Kolb Learning Style Inventory (1974).
3. Reduction of stress and test anxiety through coping methods such as adequate preparation, relaxation, self-talk, and visualization.
4. Establishment of short term goals using the University catalog and class schedules to explore degree plans and academic policies, and to plan class schedules for three future semesters.

Students may miss only one of these lab sessions in order to receive a grade of "satisfactory."

Second-semester provisional students are those who showed satisfactory progress the first semester but who did not achieve a "C" average. These students are assigned to complete six additional lab units during the first six weeks of their second semester. In consultation with lab personnel, each student contracts for an individual program of activities from an extensive lab menu. Learning activities may be self-paced, utilizing a variety of written, audio-visual, and tutoring resources, or they may be conducted in small groups designed to meet specific needs. Again, each student's progress is monitored, and the satisfactory completion of five units is considered acceptable.

The Volunteer Student Program. The thrust of the volunteer student program, Students Assisting Students to Succeed (S.A.S.S.), is to influence how students feel about their first college experience. This component provides a personal peer support system which students may use to seek help, information, and encouragement that is credible and non-threatening.

S.A.S.S. is a registered student organization open to any student who is in good standing, who has had at least one semester at the University, and who agrees to commit at least twenty hours during a semester to include volunteer training and working with provisional students. Prospective members are screened through individual interviews with the Administrative Coordinator from Study Skills and Tutorial Services and must then be accepted by the Membership Committee of the organization. The volunteer-student ratios vary from 1:6 to 1:15. Experience has shown that the commitment and competency of the volunteer are the most important criteria in selection.

New S.A.S.S. members are trained in study skills, university resources, and interpersonal skills. Their assistance is not imposed, but all provisional students have the names, addresses, and phone numbers of S.A.A.A. members whom they may contact voluntarily at any time.

Additionally, S.A.S.S. members assist groups and individual students at orientation, at registration, in study skills classes, and in the Learning Assistance Lab. They are, consequently, visible and accessible to all provisional students.

Future Plans. The retention improvements cited earlier plus informal student evaluations have convinced us that we are moving in the right direction, but they have also revealed areas for change and improvement for future semesters. Improvements that will be implemented Fall, 1984, will include more affective activities that will be provided in cooperation with the Counseling Center and an early warning system devised to identify potential drop-outs. Other plans call for diagnostic testing of reading followed by college reading classes for students still scoring ninth grade or below by the end of their first semester. Finally, plans are being made to extend the scope of the program to include all entering freshmen, to involve increasing numbers of faculty and staff in student retention efforts, and utlimately, to increase the number of students who graduate from our University.

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KEEPING CURRENT IN COLLEGE-ADULT READING: THE CENTER FOR THE BOOK

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The curse and blessing of college-adult reading professionals is that their field seems to cut across every discipline. While this provides the stimulation of involvement in many fields, it creates problems of keeping current. For example, college reading specialists must be conversant with such diverse fields as English, learning disabilities, library science, E.S.L., and journalism. They must have some familiarity with counseling, adult literacy, content area texts, vision, hearing, linguistics, and adolescent and adult psychology, just to name a few. On his own campus, the author recently identified 14 different departments teaching reading. Keeping up with all of them is a problem.

Further compounding the problem is the new interest of several disciplines in the study of reading. For example, in recent years gerontologists, pediatricians, cognitive psychologists, and military and industrial educators have developed interest and research in reading, some of which relates to adults and college students. These new areas have their own publications and technical vocabularies, have differing perspectives on reading, and usually are out of touch with each other.

Since knowledge from several fields is related and often useful in practical ways to the college-adult reading specialist, attempts to consider reading in a broad interdisciplinary context are most welcome. Such an interdisciplinary approach tends to integrate and summarize learning for the busy reading teacher who finds only limited time to keep up to date in his field. It also counteracts the trend in every field, including reading, to overly specialize and fragment knowledge.

Such an interdisciplinary reading organization, *The Center for the Book*, is a little known resource to most college and adult reading professionals.

Founded in 1977 by federal law at a time when the demise of the book was said to be imminent, The Center for the Book was established in the Library of Congress. Its purpose is to serve as a useful catalyst among authors, publishers, booksellers, librarians, scholars, and readers. It especially is intended to stimulate appreciation of the essential role of the book and the printed word in society. The Center sponsors a variety of popular and scholarly projects and publications which may deal with any of the following topics: the educational and cultural role of the book, nationally and internationally; the history of books and printing; the future of the book, especially as it relates to new technologies and other media; authorship and writing; printing, publishing, and the preservation of books; access to and use of books and printed materials; reading; and literacy. The Center's program of activities and its publications are supported entirely by gifts from individuals and organizations. Administrative expenses are provided by federal funding.

Some of the more visible activities of the Center involve book promotion activities produced in alliance with the television industry. The "Read More About It" program, which began in 1979, recruits prominent TV stars to present thirty second messages promoting books and reading to be aired at the end of its shows. Specific books on the subject of the shows are recommended and prepared by the Library of Congress. CBS provides free air time for the messages and promoted the project nationally through film strips, posters, and book marks. The slogan for the project is "Linking the Pleasure, Power, and Excitement of Books and Television." The project has been expanded more recently to include extended TV presentations that are based on biographies. The subjects include men such as Jack Dempsey, George Washington, and Robert F. Kennedy. Book suggestions have also been given in connection with the All-Star Baseball Game, the Super Bowl, and other professional football games.

Promotional activities intended more for children involve Cap'n O. G. Readmore, an animated smart cat who knows a lot because he reads a lot; ABC co-sponsors these promotions. The Cap'n also appears on posters, bookmarks, and other print materials published for schools, libraries, and bookstores. A national "Books Make a Difference" essay contest for grade school students, co-sponsored by Xerox Education Publications, and a library project on the same theme in Toronto were also generated by the Center.

Other activities of the Center, through unrelated to college-adult reading, are of interest to those in the reading field. These include published reports on the recently completed national union catalog, the public lending right--the notion that authors should be compensated for library use of their books, the family-school partnership, U.S. International book programs, and early illustrated books. Reports of these and most activities of the Center are available, many on a free request basis, from the Library of Congress, Washington, D.C., 20540. The Center maintains a mailing list and disseminates information about other publications and future projects. Prospective projects include an investigation of the effects of new technologies on book distribution and a blue ribbon Congressional study on the role of the book in the future.

A brief selected annotated list of the Center's publications judged to be of most interest to college adult reading professionals follows. Publications cited are recommended for reading teachers who desire breadth as well as depth in their field and who have limited time and money to spend on self education.

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PRIDE: AN INTERDISCIPLINARY APPROACH TO SKILLS STRENGTHENING

by
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The Problem

It is only stating the obvious to say that we and our students, traditional and academically disadvantaged, are in the midst of a revolution in knowledge and technology in which the only constant is change itself. *The New York Times* describes a "new kind of engineering," "knowledge engineering," which seeks to interview leading "experts in science, medicine, business and other endeavors to find out how they make judgments that are the core of their expertise," so this knowledge may be codified by the computers which will, it seems inevitable, make more and more of these decisions by "emulating human inferential reasoning" (Reinhold, 1984, pg.16).

Given this explosion of new academic and technological knowledge, in order to ensure that all our students, but particularly our departmental students, have the skills to meet the challenges of the '80s, we must help them identity, understand, articulate and manipulate the cognitive-linguistic patterns underlying all knowledge, so that they can process information from a variety of perspectives.

Our students' environments and educational backgrounds have not provided them with opportunities to develop the cognitive skills of identification, association, reversal and combination which are the pre-requisites for Piaget of the formal, abstract thinking which is at the basis of holistic awareness. Missing crucial links in cognitive development, these students have predictable difficulty in rendering "explicit the relations between propositions such as therefore, if ... then, etc" (Piaget, 1955). It is, however, precisely these relations that are increasingly being recognized as essential to the development of a "knowledge base."

Since where there is no awareness, there can be no articulation, the gap created by this inability to perceive, articulate and utilize logical relationships has an impact on the students' sucess in all courses. The need for clarity of thought and expression is highlighted by the computer age. The new technology is built to respond only to clear commands which presuppose an understanding of specific meanings and logical functions.

The Design

How can students from academically disadvantaged backgrounds be helped to develop the basic cognitive-linguistic skills and active learning strategies needed for success in college?

The Program for the Reinforcement and Integration of Developmental Education (PRIDE) represents Mercy College's effort to meet this need by providing an interdisciplinary approach to remediation within the setting of a four-year liberal arts college in Westchester, New York. Founded in 1980 under a Title III Grant, the program had expanded, by 1982, to four of the college's six locations and been made an integral part of the regular college cirriculum.

Incoming students are tested in reading, writing and mathematics. Those with weak skills in two of these areas are designated PRIDE students and placed in non-credit skills courses, and in 100-level credit content courses including Psychology (Critical Readings), Philosophy (Effective Reasoning) and Speech (Oral Communication). Students' progress is monitored at bi-monthly meetings, in which the core faculty plan interdisciplinary approaches to skills strengthening. The fact that the core faculty is rooted in the departments helps students understand that there is continuity in skills development, that they can learn the strategies required to suceed in elective as well as skills courses.

An important aspect of the core faculty's interdisciplinary effort has been to reinforce the understanding of those signal words which represent the linkages of thought underlying all disciplines. Included in these signal words are categories of connectives such as addition, contrast, cause and effect and condition. Our goal is to help students recognize the subtle changes in the cognitive-linguistic patterns of meaning these signal words represent and be able to articulate their understanding from a number of perspectives.

The Approach

Reading

Consider the following two sentences:

1) Although the operation was a success, the patient died.

2) Although the patient died, the operation was a success.

The student who is able to identify the logical connective in each sentence as belonging to the category of contrast, and understand and explain to his peers the significant change in meaning and focus that occurs when the clauses and main ideas are interchanged has taken an important step in his cognitive development.

The reading instructor might introduce students to the impact of signal words through the use of the above sentences, and go on to reading exercises which stress the idea that one must first understand the relationship between the two parts of the sentence before one can select the correct connective. In the following, for example, only the student who understnads the logical relationship of negative condition which exists "between the lines" can confidently select the correct signal word:

Modern technology will become our master instead of our servant __________ we find way to solve the problems it has created.

if unless although

Through selecting words which best complete a sentence in which the signal words are already presented, the student is given the opportunity to formulate some general rules which will help in reading comprehension; a series of sentences like the following will help him towards the generalized rule of reversal in which the main idea is always introduced by the connective "however":

On the surface, the two men were friends; however, their relations reflected a growing __________ .

reality hostility closeness alliance

Writing

These exercises not only reinforce reading comprehension, but prepare the student to generate clearly conceived written sentences. In a writing class, the student performs similar exercises but the emphasis is now on perceiving the effects of the self-generated written word. The assignment might be to combine two simple clauses such as "John died" and "Mary cried" in as many ways as possible. Through changing the variables (the signal words) and maintaining the constants (the clauses), the class might create sentences like these:

John died because Mary cried. / Mary cried because John died.
Mary cried when John died. / John died when Mary cried.
Although Mary cried, John died. / Although John died, Mary cried.

Through analysis of these and other permutations, students gradually perceive how changes in signal words and their placement in the sentence create changing nuances of meaning. They actively learn that while it is possible to write sentences which are grammatically correct but illogical, it is equally possible, and, from the standpoint of communication, preferable, to form logical statements which precisely communicate meaning.

Mathematics

Exact understanding of the cognitive-linguistic patterns represented by signal words is also important to students' understanding of terminology and symbols in math classes. Students in math classes must comprehend the logical meanings of words signaling *contrast* (less than/greater than), *cause and effect* (as a result/equal), *choice* (less than/equal to). They must understand the meaning of words denoting *location* (adjacent to) and *condition* (if/until). It should be noted that "if" and "until" are among a number of signal words which function as computer commands (some others are "else," "next," "while"); the student who finds the computer's logical terminology "user friendly" will increase his opportunities for success in the '80s.

The math anxious student whose experience in other skills classes has helped him overcome problems in thinking and reading comprehension will be better prepared to tackle word problems, perceiving himself as operating from a reservoir of strength and knowledge which can be applied across the curriculum. But if math students must understand the vocabulary of signal words, they must also recognize the symbols by which these logical categories are represented mathematically (see Appendix A). Finally, once these signal words and symbols have become part of the students' knowledge base, they must learn how to manipulate them sequentially according to the order of operations required for the solution of mathematical problems:

$$\left\{2\left[2 + 3(9 - 2^2) - 4(3 + 1^3)\right] + 3\right\}^2$$

In order to solve this problem, the student must remember that the parenthesis, bracket and brace really represent an ordering sequence; one must first resolve the material within these grouping symbols, then evaluate any numbers with exponents, and finally move from left to right performing in order all multiplication and division, and then all addition and subtraction (solution to math problem appears in Appendix B).

Indeed, the process through which the student moves in ordering mathematical expression is not dissimilar to the steps he will take in his writing class in order to generate a well-structured paragraph with topic sentence, main point, supporting arguments and examples. In order to reinforce and help the student integrate material from math class, the writing instructor might ask for a paragraph explaining the steps needed to resolve the problem. The student who is able to write the paragraph presented in Appendix C has come a long way towards reinforcing and integrating basic skills.

Psychology

An important step in developing transferable skills is to apply them to content courses. Critical Readings in Psychology allows developmental students to do just that, for, not only does this course stimulate the students with college content work, it allows them to see that the cognitive-linguistic principles learned in basic skills courses will have application throughout their college careers and beyond.

As students read and discuss articles of general psychological interest, they may be asked to identify signal words, explaining how they clarify meaning, and to write a paragraph or short essay about the article, following the ordering structure of their writing class. At the same time, reading and writing instructors may introduce assignments based on the psychology article currently being read by their students. In this way, developmental students are enabled to read and comprehend articles which have not been "watered down" and to experience the satisfaction of knowing that they can draw on an ever-increasing knowledge base to transfer skills learned in one course to another.

Conclusion

Interdisciplinary approaches such as PRIDE take advantage of the intrinsic relationships and linkages among skills in order to prepare students for a changing world. In order to succeed, students need to feel that the locus of control is internal, that they have developed a "knowledge base" which will enable them to process information and shape outcomes. Cognitive-linguistic growth of this sort cannot occur in a vacuum; it is only as faculty and students work together to reinforce and integrate transferable skills across the curriculum, that we will all march towards excellence into the '80s and beyond.

APPENDIX A

Mathematical Signals and Symbols

Addition

+

Contrast

less than <

greater than >

Cause/Effect

as a result = (equal)

Condition

if (computer command)
until (computer command)

Time

when (computer command)

Ordering Sequence

First	Parenthesis	( )
Second	Bracket	[ ]
Third	Brace	{ }

Choice

less than or equal to ≤

greater than or equal to ≥

Summary

in total (sum)

Example

for example

such as (word problems)

such that

APPENDIX B

Solution to Math Problem

$$\left\{2[2+3(9-2^2)-4(3+1^3)]+3\right\}^2$$

$$\left\{2[2+3(5)-4(4)]+3\right\}^2$$

$$\left\{2[2+15-16]+3\right\}^2$$

$$\left\{2[1]+3\right\}^2$$

$$\left\{5\right\}^2$$

$$25$$

APPENDIX C

Student Paragraph explaining Math Problem

How can we solve this confusing number problem? In order to solve it, we must perform the operations in the following order. First, we raise numbers to their exponents. For example, we will first find the square of 2 and raise 1 to the third power. Second, we perform multiplication. In this problem, we multiply 3 times 5 and four times four. Third, we return to the next set of brackets and simplify. For example, we add 2 to 15 and then subtract 16 to arrive at 1. Fourth, we return to the left to complete the work in the braces. For example, we multiply 2 times 1 and add 3 to arrive at 5. Our final step is to raise everything within the brace to a power. This gives us the answer, which is 25.

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LEARNING MATERIALS, TECHNOLOGY, AND RESOURCES FOR DISABLED COLLEGE STUDENTS AND ADULTS: 1984 AND BEYOND

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The status of disabled persons in the United States and other countries of the world has been improving since 1970. Much of this improvement can be attributed to national and state legislation regarding education, employment, and accessibility for disabled persons. In addition, the United Nations and the United States Congress have focused attention on the needs and concerns of disabled persons. The United Nations designated 1981 as the International Year of Disabled Persons, and this emphasis was followed by the declaration of the United States Congress making 1982 the National Year of Disabled Persons. Keeping the momentum, the United Nations General Assembly, on December 3, 1982, proclaimed the Decade of Disabled Persons 1983-1992. In July 1983, both Houses of the United States Congress endorsed the decade and urged the President to take all steps within his authority to implement the objectives of the decade. In the United States, the National Organization on Disability is pursuing these objectives on behalf of all disabled children, young people, college students, and adults.

The first objective of the decade emphasizes expanded educational opportunity for all disabled persons, and this presents a challenge for all colleges in the nation. According to the 1980 census data, 31,937,180 persons, constituting 14.1% of the total population, were reported to be disabled. Yet only a small number of adults and college-age young people are receiving educational benefits.

In late 1978 the National Center for Education Statistics (1979) conducted a study of disabled students in higher education programs, and estimated that 57,700 disabled students were enrolled in the nation's colleges and universities in the fall of 1978: 32,700 mobility impaired, 13,700 visually impaired, and 11,300 hearing impaired. These students, however, represent only one-half of one percent of all enrollments in institutions of higher education. A report of another study indicates that 8.1% of the United States population between the ages of 16 and 25 (the age range of the college freshmen surveyed) have *physical* disabilities, but only 2.6% of beginning college freshmen are disabled (President's Committee on Employment of the Handicapped, 1979).

All adults and college-age young people have the right to expanded educational opportunity. They have the right to *materials, technology, and resources* in order to read and learn whatever they wish. In expanding educational opportunity to these persons, it is important to focus on the individual's *abilities* rather than disabilities. Each person needs to be considered as an *individual* in light of his or her *individual needs, interests, and abilities.*

Materials

Excellent materials in a variety of formats are available today for disabled persons. These materials include printed resources, audio or visual materials, audio and visual materials combined, and realia. Depending on the particular type of disability, one or more of these formats will be the most suitable.

Materials for the Visually Impaired

Persons with visual impairments may use regular print, large print, braille, or recorded materials according to the extent of their visual impairment and, in some instances, their own preference. All disabled persons who have a visual impairment do not require braille materials, talking books, or even large print materials. Many of them can function as sighted persons through the use of low-vision aids and visual training. Many who have borderline vision are able to read standard-size print and even small print better and faster than large print.

Most visually impaired persons, however, must rely on materials in recorded, large print, or braille forms. In each of these forms there are now fiction and nonfiction books, magazines, newspapers, and reference books such as dictionaries and encyclopedias. Twin vision books, tactual maps, and braille globes are also available. Some book kits have both a print copy and a cassette which can be used by the visually impaired person either alone or with a sighted friend.

Material for the Hearing Impaired

Materials for hearing impaired college-age young people and adults depend upon the extent of their hearing impairment and their concomitant ability to read and understand language. Hearing impaired persons, therefore, need printed materials at their level of reading ability which meet their interest and maturity levels. High interest/low reading level books can frequently be helpful to many hearing impaired persons.

For both learning and entertainment, however, the visual media are the best form for use with hearing impaired persons. Many non-verbal films are available and can be effectively used. Other visual media--pictures, slides, filmstrips, films, and viseocassettes--can also be used. If these materials are captioned, their effectiveness can be increased. If the materials are not captioned, it is possible to combine the use of films, filmstrips, slides, or other video presentations with overhead transparencies or slides on which captions are printed.

Materials for the Physically Impaired

The first consideration in providing reading and learning materials to orthopedically impaired college students and adults is accessibility. Many of them are intellectually, emotionally, and socially the same as physically able persons and require only accessibility to the needed facilities. In many instances, the abilities, needs, and interests of physically disabled persons in relation to materials are the same as their able-bodied peers. In some cases, because of poor muscle control, there may be difficulty in handling certain formats, sizes, and weights of materials and equipment. A person who is not able to use either one or both hands or arms may require adaptive devices in order to turn the pages of a book or to operate equipment. Such persons, although they may have the ability to read, are considered print-handicapped and are, therefore, eligible to receive talking books, equipment, and devices from the National Library Service for the Blind and Physically Handicapped. Formats that are highly automated, such as audio cassettes and video cassettes, and equipment that can be operated easily, should be used.

Technology

For many years, conventional audiovisual technology in the form of film projectors, filmstrip projectors, slide projectors, overhead projectors, tape recorders, and video recorders has been used for educational and recreational purposes. More recently, computer technology has revolutionized modern society and has exerted an influence on almost every individual and institution in our society. It has also provided the potential for many new approaches to presenting information and learning materials to disabled college students and adults as well as to those who are not disabled. Microcomputers are now being used effectively by those who are impaired physically, mentally, visually, and aurally. Some specialists believe that the use of microcomputers will soon become just as common for all types of disabled persons as the use of wheelchairs is now for those who cannot walk (Ragan, 1982, p. 57).

Disabled persons can operate microcomputers on their own. They can control computers through special electronic devices which respond to almost any voluntary body movement, even the twitch of an eyebrow or a puff of breath. Those who cannot use their hands can write electronically on a cathode ray tube screen by means of a light pen. Some computers respond to voice commands, while others reproduce the synthetic sounds of the human voice. Computers can also control other equipment, such as videorecorders, audio cassettes, and slide projectors.

Efforts are continually being made to develop new uses and applilcations of computer technology for disabled persons. Selected pieces of equipment which have been developed through computer technology to assist disabled persons in reading and learning are discussed below.

Technology for the Visually Impaired

Kurzweil Reading Machine. This machine converts printed materials up to 11x14 inches in size--books, magazines, typewritten material--in approximately 300 typestyles and sizes of type, to synthetic full word English speech. Its component parts include a mini-computer, a scanner with internal automatic camera, a keyboard for input of all commands, software cassettes, and cables. The electronic camera scans the printed material which is placed faced down on the glass surface of the scanner, feeding the images into the mini-computer which recognizes each letter, groups the letters into words, computes pronunciation and stress, and finally produces synthetic speech. Available from Kurzweil Computer Products, 33 Cambridge Parkway, Cambridge, MA 02142.

The Optacon Print Reading System. The Optacon is a compact, portable reading system which gives blind persons immediate independent access to printed materials. The Optacon converts the image of a printed letter or symbol into a tactile form that can be felt with one finger. Different type styles, symbols, and languages can be read with the Optacon because it reproduces exactly what is printed in an enlarged vibrating tactile form.

To read with the Optacon, the blind person moves the camera across a line of print with the right hand. The index finger of the left hand is placed on the Optacon's tactile array, which is approximately 1½ inches long and 1 inch wide. As the camera is moved across the letter, the image is simultaneously reproduced on the tactile array by vibrating rods. The reading finger feels the enlarged letter as it passes across the tactile screen. Whatever image is viewed by the camera's lens is thereby felt by the user. Available from Telesensory Systems, 3408 Hillview Avenue, P.O. Box 10099, Palo Alto, CA 94304.

Visualtek. The basic components of the Visualtek products consist of a camera, lens, illumination, movable table, and display screen. The user places the reading material on the movable table, and the camera projects the image onto the display screen. Variable print size permits the user to adjust the magnification of the printed material up to 60 times, according to the needs of the user and regardless of the size of the original print. The brightness and sharpness of the letters can be adjusted through the image contrast enhancement, thus making it possible for the reader to read the material more easily. A reader can also select "positive" (black letters on white background) or "negative" (white letters on black background) contrast, according to personal ease and reading comfort. The movable viewing table enables a reader to move even the heaviest book about with fingertip control. Available from Visualtek, 1610 26th Street, Santa Monica, CA 90404.

Viewscan. Viewscan is a self-contained electronic magnifying system consisting of a small hand-held camera, a display screen, two high speed microcomputers, and an ambient light deflector. Compact and portable, the complete unit is small enough to fit into a typical briefcase and weighs approximately 10 pounds.

Handwriting, typing, numerals, and different languages can be handled by Viewscan, allowing those who are partially sighted to read normal printed material. As the camera is moved across the printed or hand-written materials, the high speed microcomputers process the camera signals and generate a bright, magnified image on a flat, neon matrix, low resolution display screen which was specially developed for use by the partially sighted. Choice of presentation includes positive or negative images which can be magnified up to 64 times. Available from Sensory Aids Corporation, Suite 110, White Pines Office Center, 205 West Grand Avenue, Bensenville, IL 60106.

Variable Speech Control Recorder-Player. Disabled persons can listen to hours of recorded tapes in one-half the time by means of the Four-Track Variable Speech Control Recorder-Player. A portable audio cassette unit, the machine has a speed range that may be varied from 60% slow-down to 250% speed-up of normal speech, with minimal distortion. The unit can compress or expand recorded sound at 15/16 or 1-7/8 ips. Available from Variable Speech Control Company, 2088 Union Street, San Francisco, CA 94123.

Technology for the Hearing Impaired

Closed captioning decoders. The National Captioning Institute prepares closed captioned television programming which is aired by the National Broadcasting Company (NBC), American Broadcasting Company (ABC), and Public Broadcasting Service (PBS). A special decoding device receives the electronic closed captioning code and translates it into subtitles which can be seen only by those who have a decoder. Closed captioning decoders are sold under the trade name TeleCaption by Sears, Roebuck and Company or the National Captioning Institute, Suite 1500, 5203 Leesburg Pike, Falls Church, VA 22401. They are available in two types: (1) the Tele-Caption Adapter which can be attached to any television set to enable it to display the closed captions, and (2) the TeleCaption TV, a portable color television set which already has the decoding circuitry built into it.

Telecommunication devices for the deaf. Communication by and with deaf and hearing impaired persons via the telephone is possible through a teletypewriter (TTY) or a telecommunication device for the deaf (TDD). A TTY is a hard copy teleprinter machine which enables the user to send and receive messages through telephone lines with the aid of a coupler which acts as an interface. A TDD functions similarly to a TTY, but TDDs are all kinds of devices: hard copy machines, semi-portable devices, and portable devices. The TDD is a new phrase, coined a few years ago when semi-portables and portables came on the market.

TDDs are produced by many companies under a variety of trade names. They are electro-mechanical devices which have a typewriter-like keyboard, a telephone coupler, and a visual display. Each character on the keyboard has its own tone code. When characters are pressed on the keyboard, a series of tones is generated and transmitted through the coupled over the telephone lines to the TDD at the other end where the tones are decoded into the appropriate character and visually displayed.

TDDs are being installed in more and more locations, such as educational institutions, police stations, fire stations, and other service agencies. In libraries they are a means of providing information and reference services to hearing impaired persons. For example, if the San Jose Public Library has a TDD, a deaf person can dial a special number for the deaf and an answering mechanism will type out the response: "San Jose Public Library. Please type your questions followed by your name and phone number." When the library staff locates the answers to the questions, a staff member will return the call by printing the answers on the teletypewriter.

Resources

A multitude of agencies, organizations, and institutions serve as resources for information and materials for disabled persons. The *Directory of National Information on Handicapping Conditions and Related Services* (1982) lists 285 national organizations and for each organization gives an abstract which includes handicapping conditions served, a description of the organization, and information services. Below are listed a few organizations which may be especially useful to educators and librarians working with disabled college students and adults. Information about their services, materials, equipment, and devices can be obtained directly from them.

American Foundation for the Blind
15 West 16th Street
New York, NY 10011

American Printing House for the Blind
1839 Frankfort Avenue
P.O. Box 6085
Louisville, KY 40206

Captioned Films for the Deaf
Distribution Center
5034 Wisconsin Avenue, NW
Washington, DC 20016

Center for Rehabilitation Information
Library of the Health Sciences Building
102 Medical Sciences Building
University of Illinois
Urbana, IL 61801

Choice Magazine Listening
P.O. Box 10
Port Washington, NY 11050

National Association of the Deaf
814 Thayer Avenue
Silver Spring, MD 20910

National Information Center on Deafness
Gallaudet College
Kendall Green
Washington, DC 20002

National Library Service for the
Blind and Physically Handicapped
Library of Congress
Washington, DC 20542

National Organization on Disability
2100 Pennsylvania Avenue, NW
Suite 232
Washington, DC 20037

The National Rehabilitation Information Center
4407 Eighth Street, NE
The Catholic University of America
Washington, DC 20017

Recording for the Blind
215 East 58th Street
New York, NY 10022

These resources are only a few of the many sources of materials and information about materials and technology which are available to assist disabled persons to read and learn. The list, as well as this article, is a beginning point for the college educator who is endeavoring to serve the educational needs of students who have a disability. Materials and technology for disabled persons are readily available in increasing quantities, but much still needs to be done to bring the materials and technology together with those who are disabled.

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THE FIVE-AT-A-TIME VOCABULARY METHOD FOR USE WITH OR WITHOUT MICROCOMPUTERS

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English students often express dismay when they learn that they must use their vocabulary words in sentences. And their anxiety is understandable, as a look at some of their sentences will demonstrate.

Some of their malapropisms are attributable to faulty association with similar sounding words. Here are a few examples:

Reversion: The reversion of the paper made more sense than the original.
Replete: He kept repleting the question.
Replete: Unexpected company repleted our food supply.
Demise: Some people demise others they are jealous of.
Demise: The man demised a way to fly across the lake without a motor.
Arrayed: The victim was arrayed by the judge.
Lamentations: The lamentations on the objects made them shine.
Perennial: The perennial instinct told the mother to protect her child.
Exhortation: My friend was arrested for exhortation.
Aspersions: She has aspersions to become an actress.
Prospective: He put his argument into prospective.
Platitude: My essay had a platitude of spelling errors.
Elude: That elude remark was made by a creep.
Component: The debater's performance was better than that of his components.

The students who made these errors had been exposed to the target words once in a reading assignment, and supposedly they had also looked them up in a dictionary. But that amount of exposure had not been sufficient to enable them to discriminate between an older piece of knowledge and a newer one. Hence, the older impression prevailed.

Another kind of error appears to result from faulty application of word analysis. Students might know a root or prefix somewhat imperfectly, make a guess at the new word, and come up with errors like the following:

Debated: He debased himself moving from city to city.

Germinal: The woman was sick from her germinal disease.

Transcendent: By using transcendents, the paper read more smoothly.

Anarchy: The peasants got together and overthrew the anarchy.

Anachronistic: John was an anachronistic person; he never wore a watch.

Platitude: She reached a high platitude during her career.

Affront: Husbands and wives should hold 15 minutes of conversation affront one another.

Virtuosity: In the olden days, boys were encouraged in their promiscuity and girls in their virtuosity.

These errors point up one limitation of the roots-and-affixes approach to vocabulary building. It certainly is a valid strategy for learning and remembering new words, but it is no substitute for repeated exposure to a word in a variety of contexts.

Even using a dictionary--the best vocabulary building tool of all--is not sufficient for some students. The following are examples of sentences written by students who had dutifully looked up words in their dictionaries:

Replete: After the meal, I was repleted.

Resolute: The jello was resolute after it set in ice for two hours.

Perforate: The nuclear exchange perforated the whole human race.

All of the above examples were written by students in transfer level composition courses. Some of them might be considered high-level errors, resulting from ambitious efforts to imitate the diction of the professional writing they have recently read. However, remedial students' errors are especially saddening. These students often learn only one form of a word and try to use it as a noun, adjective, adverb, and verb. The following are examples:

Generous: A person who is kind and nice.

Apprenticeship: Carl was apprenticeship to a carpenter.

Fragile: After cooking all day, I was worn to a fragile.

Replacement: To get into college, I took a replacement test.

Fateful: The food was tempting, but we were fateful to our diet.

Students who make errors like these are almost inevitably poor readers who dislike reading and avoid it whenever possible. If they can be helped to understand how words work and how to master them, reading becomes less painful and more satisfying. If these students are to master a word, they must be able to use it in their own speech and writing.

In addition, these students are often handicapped in their use of the dictionary. They cannot translate the parts-of-speech labels into directions for using words in sentences. And they seldom make use of synonomies or illustrative examples that show how a word is used in a context. Yet they can make changes in the suffixes of familiar words to make them fit their own sentences. For example, they use the word "beautiful" in adjectival positions and "beauty" in noun positions. So they are capable of sensing correctness of word form if they have been exposed to repeated examples of a word and its variations.

Foreign students and ESL students are another group who need more help than a dictionary provides. They are usually highly motivated, but they read slowly and often miss the subtle differences in words. They often understand the parts of speech better than native speakers, but they need to learn distinctions such as when an adjective is applied to a person and when it applies only to a thing. So they, too, need to see words used in a variety of contexts if they are to master them.

To meet these observed needs in my remedial students, I developed a vocabulary building method called the "Five-at-a-time Method." I asked students to learn all the forms of a new word, not just one. For example, if they learned the word *generate* they would also learn the other forms: *generates, generated, generating, generation, generative*. Of course, some words have more than five forms and some have fewer than five, but on the average they could be learning five forms at once, hopefully forming a lifelong habit of this practice.

I introduced this method by first presenting certain target words in an interesting or useful context such as a lesson on word origins, a humorous reading, or an excerpt from the textbook of a general education course. I underlined the target words so students would be aware of them as they read the lesson. Then for each of the target words, I presented the base word, a simplified pronunciation, a definition, and a list of variations. I modeled the various forms of the word in example sentences, and then asked students to complete an exercise by filling in blanks in several more sentences with the correct forms of that word. A sample lesson is appended.

About this time we purchased several microcomputers for our Learning Center at Bakersfield College. I observed that many students were highly motivated by microcomputers, patiently working on lessons covering spelling, usage, or even the parts of speech. We purchased some vocabulary drill programs, but most of them were merely matching exercises which required students to know the words and definitions beforehand. We found nothing that actually taught a word and modeled it in several sentences to show a student how to use it. Yet I could see the possibility of using the Five-at-a-time Method in a highly interactive computer program that would give a student some information, a meaningful drill, and immediate feedback on his answers.

With this in mind, a pair of programs was developed to meet these needs. One of these programs enables a teacher to build a series of lessons with any words he or she might choose. It provides for the input of a base word, its pronunciation, a definition, variations, and examples. Then it accepts an exercise of several sentences with blanks in them and stores the correct answers. The other program is used by students to access the lesson. Like its typewritten or printed counterpart, the student's computer program presents a word, definition, pronunciation, variations, and model sentences. Then it leads the student through the exercise, presenting one sentence at a time for the student to complete. Students are allowed two tries and then are given the correct answer. The base word and variations remain on the screen, and students can press "H" for "help" when they want to see the model sentences again.

The prototype computer program is written in IBM Basic A, but it can easily be converted into other types of Basic. A flowchart was provided that would allow the program to be converted into other languages. The program is copyrighted, but permission is granted for nonprofit educational uses. Any other use requires the written permission of the authors. At this writing, modifications of the program are in progress which might permit easier editing.

Although the Five-at-a-time Method seems to be well received by students, I do not recommend that it be used extensively. Other strategies are also useful. Students should be taught to use context clues, analyze word parts when appropriate, and refer to their dictionary and thesaurus. Even more important, students should be given frequent opportunity to pronounce new words and to use them in writing original sentences. Word games, puzzles, and humorous uses of words all help to make the study of words enjoyable.

Recent research in methods of teaching vocabulary tends to support teaching words in meaningful context rather than in isolated lists. However, a combination of strategies may be preferable to any one method alone. One study (Gipe, 1978) examined the effectivenss of four methods in teaching vocabulary to third and fifth graders. She compared the context method, the use of category labels, dictionary practice, and association of unknown words with familiar synonyms. Gipe found that the context method was significantly better than the other three. Even though good readers did better than poor readers, as expected, the context method was the most effective for both groups.

Gipe's context method involved more than one exposure to the target word. Her study suggested that the new word be introduced in not just one sentence, but several, one of which was defining. According to Gipe, once these sentences have been studied with the help of the teacher, the student should be asked to apply the new word's meaning to his or her own experiences. Further practice with new words can occur in many ways, including filling in blanks in sentences, matching words with definitions, grouping words of similar meaning together, finding synonyms and antonyms, and other activities. Although practice wtih the new word can take many forms, the introduction to the word should be in a relevant context.

Another study (Crist and Petrone, 1977) compared two groups of college students. One group saw 15 unfamiliar words five times, each time with a different sentence using the words in context. The other group saw the words the same number of times but each time the word was paired with its definition. Two posttests were given to both groups, one consisting of one sentence contexts and the other of definitions. The context group did better on the context posttest, as expected, but they also did as well as the other group on the definitions test. The researchers concluded that the context method was superior, though it must be noted that the context group saw a variety of contexts whereas the other group saw only one definition repeated.

Surveying the available research on vocabulary, another study (Bowker, 1980, August) noted several studies that supported teaching a word in context with its definition as opposed to depending upon unaided context clues. Bowker also cited some support for the method of having students produce their own contexts in addition to having contexts provided for them. Bowker concluded that no one method had been demonstrated to be best for all students, and that an eclectic approach might be best, introducing words in a variety of ways.

A comprehensive investigation into trends in vocabulary research (Johnson, et al., 1981) acknowledged the influence of psychology and brain research on current theories of learning and retention. Because learning appears to be stored through linking and networking of previously stored material, the study stressed the relation of new knowledge to that which is already known. Also explained were several teaching strategies, including contextual analysis (using context clues), the keyword method (forming visual images associated with the word), and semantic mapping (categorizing and structuring of information in graphic form). Each of these strategies has its uses and limitations. The context clues strategy is useful with reading matter that provides such clues as appositives and contrasting expressions, but not all written matter does. The keyword method is useful for picturable words but less so for abstractions. Semantic mapping requires class discussion at considerable length, though it does build bridges from the unknown word to known concepts.

I believe that the Five-at-a-time Method provides a practical way to implement the theories that this research supports. It provides a variety of contexts along with definitions. It requires student interaction. It also draws upon deep structures of sentence sense which students may know without realizing that they do. It can be used with any word, not just the latinate words which lend themselves to roots-and-affixes analysis. It appeals to students with a wide range of abilities and can be used with tools as modern as a microcomputer or as simple as a lead pencil.

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Appendix A
Word Practice

Using Words in Writing. Below are five words taken from Lesson 5 for extensive practice. For each word, you will be given a pronunciation, a definition, a list of the variations of that word, and examples of how good writers would use those variations in sentences. Study the example sentences and do the following exercises by choosing the correct form and writing it in the blank.

1. Subtle (SUT-ul) - capable of making fine distinctions in meaning, delicately suggestive, not grossly obvious

Variations: subtler, subtlest, subtly, subtlety, subtleties

Examples: Henry James' novels are marked by subtle thought. The web of life is spun with the subtlest of threads. Ambassador Black was well respected for subtlety and diplomacay. Harvey changed the subject when his wife subtly nudged him. Small talk lacks the subtleties of mature conversation.

Exercise: Complete these sentences, using the correct forms of subtle:

a. Thomas Jefferson was a ________ thinker.
b. Children get the main points, but they miss the ________ .
c. Red is too bright; I'd prefer a ________ shade.
d. There was a ________ in his careful choice of words.
e. He ________ squeezed my hand, and that gave me courage.

2. Antagonize (an-TAG-uh-nize) - to make an enemy of, to provoke hostility (from Greek roots anti and agon, "to struggle against")

Variations: antagonizes, antagonized, antagonizing, antagonist, antagonism, antagonistic (an-tag-uh-NIS-tik)

Examples: Teasing an animal is sure to antagonize him. A woman scorned becomes a bitter antagonist. Britain and the U.S. were antagonists in the Revolutionary War. What makes them so antagonistic towards us? There is nothing to gain from antagonizing your friends. The manager's remarks antagonized the workers. Their antagonism soon became obvious.

Exercise: Complete these sentences, using the correct forms of antagonize.

a. The Arabs and the Israelis are traditional ________ in the Middle East.
b. In 1982 Argentina ________ Britain by occupying the Falkland Islands and claiming them.
c. There is a long history of ________ between Iran and Iraq.
d. Lately you seem quarrelsome and ________. What's wrong?
e. Harsh criticism always ________ people.

ENHANCING WHAT THE READER BRINGS TO THE PAGE: UTILIZING FACTORS THAT PROMOTE READING AND REASONING SKILLS

by
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Introduction

College students face a formidable task when they are required to read diverse materials, to integrate and store that information, and to retrieve it selectively at a later date. In addition, interpretation of sophisticated reading material requires higher level reasoning skills, which are an important component of reading ability. What techniques can be employed to make readers more efficient at their task? What do research and theory offer that will alleviate some of the difficulties?

Background

The printed page lies inert until it is "activated" by the reader. What the reader brings to the page is the key to his understanding of it (Cooper & Petrosky, 1976) but he is able to use only that which he can retrieve from his store of knowledge and information. Inadequate or inappropriate retrieval limits his grasp of the material before him.

The mind of an adult reader contains a variety of things. He has "prior knowledge" (Obah, 1983) which includes knowledge of his native language (possibly other languaages as well) and his knowledge of the human behavior that he has experienced. He has various "schemata" (Rumelhart & Norman, 1978) that have been created out of experience and previously acquired information. He has "frames" (Minsky, 1977; Anderson & Pichert,

1978) that help him predict and interpret new material, and he has collections of past experiences that exist as "gestalten" (Claxton, 1980). He also has some information about written language forms and is able to use "auxiliary devices" (Luria, 1981) such as paragraphing, subheads, italics and so forth, to help him process the information on the page. But whatever terms we use to describe the organization of his mind, it is essential that he be able to make use of the appropriate "areas" in order to comprehend the new material and to integrate it with his previously acquired store of knowledge. How can a reader effectively retrieve what he knows?

Information Storage

We may best be able to answer this retrieval question by first looking at some theory concerning how information is processed and stored. There are a number of information-processing models of memory, one of which is the Atkinson-Shiffrin Buffer model (Houston, 1976) and it will serve our purpose well. The essential parts of the model are (a) the sensory register which receives external stimuli, (b) the short term store (STS) which holds recently acquired information for a brief period, and (c) the long term store (LTS) which holds information for an indefinite period, perhaps permanently. According to the model, information is held very briefly (.5 to 1.5 seconds) in the sensory store and is transferred to the short term store through rehearsal. The short term store has a "rehearsal buffer," an area containing a limited number of bins or slots (a concept initiated by Miller, 1956) which are filled in sequence by the incoming information. When the buffer slots are all filled, an item will be displaced by the next bit of information and so lost. Rehearsal of an item may keep it in STS, or transfer it to LTS and in general, the longer information is held in STS by rehearsing it, the more likely it is to become part of the (possibly) permanent memory. Information in LTS may be lost or altered through the process of decay or through interference although it is considered by most theorists to be relatively permanent.

If we accept this model of information processing (or a similar one), we understand something about the ingress of information but the egress is still a mystery. Over the years, learning theorists have addressed this problem and have conducted experiments in their efforts toward a solution. Among the experiments were those done on recognition and recall (Tulving & Thomson, 1971) which indicate that recall involves a more complicated process than does recognition (probably) because cues supplied in the recognition situation facilitate retrieval. Other investigations concerned cued versus non-cued recall (Tulving & Pearlstone, 1966) and showed that subjects have better recall of words that belong to categories when the category names are provided (cued recall). Futher studies indicate that the degree of organization of the material at the time of storage is the primary factor in its retrieval (Kail & Siegal, 1977). Craik and Lockhart (1972) suggest that the depth of processing is a key factor in its retention.

Two models of information storage that may help to explain the foregoing results are the Associative and the Integrative metaphors (Claxton, 1980). The Associative metaphor assumes that a compound event, such as a sentence, or an ides, a meaningful concept, can be construed as a collection of more elementary concepts that are not themselves altered by being members of the collection. As the Associative model is outlined, there is a memory for facts and incidents and a set of strategies for putting things in and taking them out. Associations are set up between items, between A & B & C & D, and those associations permit us to recall A & B when C or D is presented. The Integrative metaphor states that our experiences are not merely collections of data, of A & B & C & D, but are made up of information that has been integrated and modified depending upon other information that is present. In the Integrative model, information is visualized as existing in "concept clumps" or sets, with central features foremost and peripheral features found at the fringe. There is also a verbal label for each set. The set consists of information that has been bound together through integration and modification and each set is related to other sets through the subsets that are held in common. The sets are activated by internal or external stimuli, or by a combination of them. One set or several sets may be activated, may be activated at the sub-threshold level (primed), or may be completely inactive. Recall of information occurs when activation of a set leads to successive activation of other sets that are needed for the task at hand.

From these data about how information is processed and stored we may be able to formulate retrieval strategies. Let us look next at some techniques that have been tried.

Previous Activities

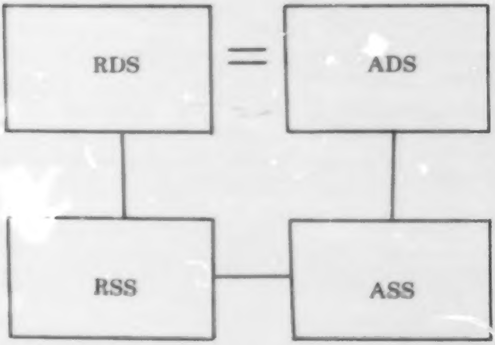
Two techniques discussed by Beck (1981) and used on younger readers are prereading discussion and purpose-direction setting. In prereading discussion, the amount of activity necessary depends upon the degree of familiarity the readers have with the upcoming topic. In purpose-direction setting, readers are guided in their attempts to integrate the new information with statements such as "Read to find out..." or "In this story you will learn that...." In an experiment conducted by Stevens (1982) it was found that teaching background information about a topic can significantly improve reading comprehension on material related to that topic. Singer and Rhodes (1976), working with high school students, found that prereading questions provided useful guidance to students who lacked the ability to select important information from texts. White (1981) investigated the way readers can establish a beginning schema and then hold that schema in abeyance or modify it to create meaning from a text. She found that both proficient and non-proficient readers exhibit the same behaviors while reading, but that the proficient readers are more flexible and adapt their preestablished schema more readily to fit the reading material through such activities as verbalizing, predicting, and referring to their background of experiences. Bean and Pardi (1979) developed anticipation guides that use experience and information based questions concerning concepts to be presented in the text, followed by a review of the questions at the end of the material. Barron (1979) found that graphic organizers outlined by teachers but completed by students in a post reading activity contributed to comprehension in high school readers. Vacca (1977) discovered that discussion of material in small study groups was effective providing that the group members understood the goals of the activity.

A Possible Solution

In my university classroom, students of varying backgrounds and abilities are expected to read the syllabus material and respond to questions that are intended to be at the application, analysis, and synthesis levels. Sample topics are Benjamin Franklin's "Letter to Madam Brillon de Jouy" (the "ephemera" letter), H.L. Mencken's "Hymn to the Truth," Mark Twain's "The Fourth of July," Max Weber's "Bureaucracy," and Adam Smith's "Of the Origin and Use of Money." Each of these selections was chosen to broaden the student's knowledge base and to help him become a better educated person.

It should come as no surprise to learn that merely giving the students the selections to read accompanied by the questions to be answered yielded poor results. Questions that could not be answered at the knowledge or comprehension levels were often overlooked. If I was serious about broadening their intellectual backgrounds, something had to be done. The result of my determination combined with my awareness of much of the information given above is a six-step process.

1. I lecture on learning theory, covering such concepts as the necessity for background information, meaningful organization of information, and selectivity as well as the importance of purpose, intention to learn, and regular rehearsal. The Ebbinghaus curve of forgetting and Miller's (1956) seven discrete item findings are also included.
2. I lecture on the psycholinguistic view of the fluent reading process (Cooper & Petrosky, 1976). Our precept becomes a diagram adapted from Goodman (1972) in which the reader must process his perception of the written matter (Reader's Surface Structure - RSS) that is based on the author's writing (Author's Surface Structure - ASS) in order to form an equation between what the author had in mind when he wrote (author's Deep Structure - ADS), what the reader forms in his mind when he reads (Reader's Deep Structure - RDS). And, since the writer is no longer available to participate in the equation, the onus is upon the reader.



3. Students are shown how to supplement their background information. In a sample syllabus activity, they are directed to sources of information such as encyclopedias, collections of quotations and biographical dictionaries. In this two-stage activity, students are directed to the sources, evaluated for the quality of the material they have accumulated and are then redirected if necessary.

4. Each student is permitted to select two syllabus exercises, from the 14 available, that have interest and/or pertinence for him. A psychology major might select Freud's "Notes enclosed with a letter to Dr. William Fliess," while a political science major might choose Machiavelli's "In what matter princes should keep their word." When each student has made his selections he is grouped with other students who have made like selections, to complete one of his choices. (Selecting two makes the match-up easier.)

5. Before beginning the exercise, students fill out a self-appraisal form that asks for an evaluation of the degree of knowledge in each of seven major categories. (See appendix.) After this self-evaluation is completed, I indicate from which areas information must be drawn to understand each syllabus reading. For example, if the student selected the Franklin "Letter to Madam Brillon de Joy" he must activate his knowledge of American and French history, his knowledge of human behavior in the elderly, his knowledge of literary devices, specifically figurative language, and his knowledge of natural phenomena. While the form in its present state is rudimentary and would not apply to all reading materials, it can be used with the diverse articles in the syllabus and is considerably more universal than the text specific activities generally used.

6. In the final step of the process, the group reads the selection, searches out information, discusses the questions, shares thoughts, and finally, answers the questions. Students who have given themselves low marks in areas essential to the understanding of the piece must search for more information or defer to the superior knowledge of others. Each student, however, is encouraged to think and to respond. As it says at the top of each set of questions: "There is no one 'right' answer but there are answers that

are more likely to be correct because you have combined background information witha thoughtful approach to the material as presented by the writer. Read and think before you write." The first question in each set may be phrased in a slightly different way, but it asks, "What background information did you supply to aid in your understanding of this piece?"

I am pleased to report that the process has resulted in lively discussions of both material and sources, in comprehensive answers, and in students who revel in their newly discovered abilities.

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Appendix

EFFECTIVE READING INFORMATION QUESTIONS

Rate your degree of knowledge in each of the areas given below. Use the scale provided. Number 1 is low and number 5 is high. How well informed are you in the following areas?

1. Current events						
a. economic	1	2	3	4	5	(economic)
b. political	1	2	3	4	5	(political)
c. scientific	1	2	3	4	5	(scientific)
2. History						
a. American						
1) events	1	2	3	4	5	(A. events)
2) persons	1	2	3	4	5	(A. persons)
b. European						
1) events	1	2	3	4	5	(E. events)
2) persons	1	2	3	4	5	(E. persons)
c. World						
1) events	1	2	3	4	5	(W. events)
2(persons	1	2	3	4	5	(W. persons)
3. Human Behavior						
a. adults	1	2	3	4	5	(adults)
b. children	1	2	3	4	5	(children)
c. elders	1	2	3	4	5	(elders)
d. youth	1	2	3	4	5	(youth)
4. Literary devices						
a. prose						
1) American	1	2	3	4	5	(A. prose)
2) English	1	2	3	4	5	(E. prose)
3) other	1	2	3	4	5	(other prose)
b. poetry						
1) America	1	2	3	4	5	(A. poetry)
2) English	1	2	3	4	5	(E. poetry)
3) other	1	2	3	4	5	(other poetry)
5. Natural phenomena						
a. laws of nature	1	2	3	4	5	(laws)
b. animal behavior	1	2	3	4	5	(behavior)
6. Philosophy	1	2	3	4	5	(philosophy)

A PIAGETIAN THEORY FOR IMPROVING COLLEGE READING ABILITIES

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The Need for a Theory

What makes reading a topic of interest at the university level? The answer is generally "those who can't read" or "can't read well enough" and the impact of their deficiencies on their ability to learn. The prevailing logic assumes a direct cause and effect relationship between reading ability and academic success. College reading centers have certainly followed this logic. Over the course of their 30 year history, Cheek (1983) notes that the primary goal of such "programs has become the remediation of reading and study skill weaknesses in underachieving undergraduate students (p. 556).

There are two major problems with this focus. First, it does not work. The evidence appears to show that reading remediation may, at best, effect changes during instruction, but virtually no sustained use of the skills much less transfer to real course learning tasks occurs (Hayes and Diehl, 1982). Second, this assumption misdirects and restricts our attention to one particular group of readers to the exclusion of all others. In fact, reading "problems" are not the exclusive domain of poor readers. Recent research strongly suggests that high school and college students as a group lack a "well-balanced repertoire or effective independent learning strategies" and this is particularly evident in text reading situations where the typical approach is simply rote memorization and completion of assigned review work (Simpson, 1983, p. 22).

Essentially, reading instruction has developed in this parochial way, because many practitioners took a troubleshooting approach and ignored everything else. The tendency was to define the task, both in research and in instruction, as the identification of missing behaviors. Then, as good mechanics do, we used as many of the existing tools of the trade as possible, including elementary education's vocabulary building strategies and the remedial materials used in the secondary school system. However, unlike K-12 reading specialists, we could not (and still cannot) construct a clearly distinctive definition of reading in the university context. So, it is not surprising that the fix-up methods were not useful and were not used when students turned to real-course reading tasks.

It is clearly no longer prudent or even helpful to our students to continue to document and fix their deficiencies. We must now begin to articulate a theoretical framework for the process of university reading and in so doing attend to the function of reading in this learning context. It no longer seems suitable, for instance, to focus on the basic components of reading or the variations of content reading tasks and so ignore the goal of independent learning. In high school courses, there are several methods for learning the text content with the teacher assuming a large share of the responsibility for that learning. The information contained in many college textbooks, on the other hand, is often not repeated by the professor who sees it as the students' responsibility to glean and synthesize data from all sources. College reading instruction must allow for this degree of independence and provide a teaching process for achieving successful reading in university work. It must use a vocabulary that does the theory justice while at the same time communicating clear and effective reading strategies. Since reading is an essential part of learning, it must also involve the student in an interaction with and an elaboration of the text meaning (Simpson, 1983). Finally, current research also indicates that to be successful, such a theory must strive for instructional "explicitness" with strategy modeling where the instructor states purposes and "critical checkpoints" -- "the when, where, and how in implementing each strategy" (Simpson, 1983, p. 25-26).

The task is not as complex as its articulation. A good deal of the work has already been done. We know a tremendous amount about reading, learning, and teaching. What remains is to unite the information that is relevant to the university reading/learning task. This paper is a contribution to such an effort. It begins with Thorndike's fundamental principle of reading and proceeds to elaborate on his reading-as-reasoning thesis by linking it to selected, basic Piagetian cognitive tenets and then to university reading comprehension.

Thorndike and the Mind in Reading

The most prevalent and provocative definition of reading is the title to Thorndike's (1917) article, "Reading As Reasoning." The popular although slightly inaccurate version of the definition -- "reading is thinking" -- has stood virtually unchallenged for almost 70 years! This description fundamentally demarcates the theory we need. To say that reading is "reasoning" implies that is is more than decoding or assigning meaning to symbols. It is all of that plus drawing inferences, forming conclusions, and making judgments, which leads us to thought formation and schema theory. As defined by Downing and Leong (1982),

> Schemata are mental structures or abstract representations which provide interpretations for inputs in different modalities....It is the schema which is essential for comprehension, storage, and retrieval of input information. It is the schema which permits the prediction and inference of as yet unobserved input information. (p. 213)

"A schema is an abstract representation" of a bit of our knowledge (Downing and Leong, 1982, p. 214). As such, it allows us to reflect on something we know without external stimuli and it provides a way of organizing incoming data into a sensible perception. That is, schema functions like an organized filing system, ready to add in corroborating data or create a new file for relevant but previously unknown information. Like a filing system, schemata are predetermined and organized frameworks for a concept. Thus, as Anderson (1982) points out, "the schemata that a person possesses is the principle determiner of what will be learned from text" (p. 221), or more accurately how such learning will proceed. The beauty of schema theory is its goal: "to specify the interface between the reader and the text -- to specify how the reader's knowledge interacts with and shapes the information on the page and to specify how that knowledge must be organized to support the interaction" ((Downing and Leong, 1982, p. 214).

This perspective on reading which seems so fresh and so accurately directed evolves initially from the notion of schema developed by Kant in the *Critique of Pure Reason* published in 1781 (Downing and Leong, 1982, p. 214). The theory has not played a greater role in reading up to the present time because most schema research has focused on memory issues or, where comprehension was the goal, it generally has been used to discover how the reader "encodes the structures of goal-directed, folktale-like narratives" (Anderson, 1982, p. 221). The need to adopt a broader view and application is obvious.

Such a view does exist in the work of Piaget. However, the relationship between the mechanisms for schema formation -- the core of Piaget's prolific writings -- and reading comprehension has been largely ignored. The reading research that has investigated Piagetian tenets has tended to look at the relationship between cognitive development in the sense of readiness and beginning reading instruction, thus restricting the view primarily to Stage II development between ages 4 and 7. There has been little empirical evidence relating reading to the highest level in the hierarchy, Stage IV or formal operational thinking (Padak, 1982) or even to Stage III concrete operational thinking, the level which underlies it. Consequently, the vitality of both schema theory and Piagetian concepts of adolescent thought have not been felt in the field of reading. This oversight may have hampered the progress of college reading and learning instruction more than that on any other level because, as already noted, readers' schemata determine what they learn. This is a very critical point whenever learners are in an independent situation and must use their own resources to guide themselves through a text. Further, as Anderson (1982) stresses, the

> knowledge structures which the reader brings to the text are more important than text structures. Comprehension involves going beyond the given information in the text to reading between the lines, making logical inferences, pragmatic inferences, and supplying suppositions about the author's intentions. (p. 213)

Again, we are faced with an aspect of reasoning that is critical for the college reader.

Finally, it should be noted that Piaget is not a stranger to the college campus. Abstract reasoning has been considered essential to learning both the processes and content of science (Lowell, 1979) and Piaget's theory has gained substantial attention as a way to improve science learning on the college campus (Lawson and Snitgen, 1982; Blake and Nordland, 1978; Arons, 1976; Levine and Linn, 1977). Since it is estimated that 50% of college freshmen reason at the concrete level (Carmichael, et al., 1980, p. 169), interest has centered on how to train these students to become the formal thinkers necessary to handle science coursework. But this interest has rarely been extended to the social science fields nor to cognitive processes other than problem solving. The following section postulates a Piagetian reasoning-reading connection for college level tasks.

Piaget and the Thinking in Reading

Raven and Saltzer (1977) contend that the kind of "verbal chaining found in most textbooks does not lead the learner to analyze logical relationships and thus attain a good level of comprehension" and strongly recommend the use of Piagetian operations so that the reader can structure and analyze "logical relationships (and) build a total schema which he understands very well" (p. 8-9). To test this contention, the following discussion highlights certain fundamentals of the classification operation at the concrete and formal levels and exemplifies these principles during the comprehension process of a sentence from an undergraduate text.

Classification, one of the foremost "adultlike reasoning skills", begins as a concrete operation, or "interiorized action" that allows the thinker to identify properties of a class, "to focus upon properties that are relatively independent of the objects bearing those properties" and, thus, to establish hierarchies (Neimark, 1975, p. 545). The virtue of this type of thinking is that it is abstract and does not depend on the physical presence of the objects, although it does require that the objects exist and that the thinker has had direct experience with them (Ginsburg and Opper, 1979, p. 148). The concrete thinker is objective, analytical, and can mentally manipulate information in a number of useful ways. "He can identify relevant variables and appreciates the nature of their effect; he does recognize contradiction and is troubled by it....(He can get) to the establishment and enumeration of empirical correspondence" (Neimark, 1975, p. 554-555).

But, the sorting and the establishment of relationships at this stage "always proceed by relating an element to its neighboring element -- they (concrete thinkers) cannot yet link any term whatsoever to any other term"; so, items are grouped with those they most resemble and "there is no 'natural' class that relates two very different objects" (Piaget, 1972, p. 3). The thinker is tied to reality and drawing conclusions from observations of what actually exists. Concrete thinking, in short, is "empirico-inductive" (Padak, 1982, p. 377).

On the other hand, classification at the formal level shifts from a dependence on "perceptual properties and functions to categorical classification" with the result that there is a greater degree of abstraction and an increase in mental flexibility (Neimark, 1975, p. 564). At this point, the thinker can formulate theories and propose relationships whether or not they exist in the real world and whether or not there is any supporting evidence for them. As a result, the thinker now looks to discover general possibilities rather than aspects of reality and actually subordinates the latter to the former by perceiving not only obvious relationships but also all possible contingencies and by assessing the truth value of the premises rather than the existence of the facts. Reasoning proceeds from the possible to the actual, from general hypotheses to specific examples. It is hypothetico-deductive in nature (Neimark, 1975, p. 548). As such the critical ability of inferencing comes into play. While the concrete thinker can certainly infer, the difference is that inferencing at the formal level "proceeds at a purely symbolic level" (Neimark, 1975, p. 568) focusing on premises and validity.

Classification, therefore, may be the singularly most important aspect of reading comprehension once the basics of breaking the code are accomplished. But, at the college level, reading requires more than concrete classification skills. Consider, for example, the requisite thinking to understand the opening sentence of an undergraduate sociology text on the impact of Walt Disney productions. The sentence reads: "The existential experience of being in the Disney universe has touched the life of virtually every American and of hundreds of millions of others throughout the world through films, television, comics, parks, records, and nearly every other medium" (Real, 1977, p. 46). In order to understand this sentence, one must begin by inferring that "existential" can indicate two very different categories: that dealing with existence and that dealing with a philosophy of free will. Neither seems immediately logical. In fact, the reader must hold this ambiguity as one of the primary critical reading questions to be answered by the entire text. Answering the question will necessitate the author's purpose and thesis, his use and representation of data, and the real world of Disneyland and Disney productions. The concrete thinker is not able to consider these possibilities and would tend to ignore or explain away the use of "existential" as an example of pretentious diction.

To comprehend, the reader then needs to see the "Disney universe" as only one example of a universe. Again, the point is likely to be lost on the concrete reader who may ask the essential question of "what other show business universe is like Disney Productions?" but failing to come up with an adequate equal, is unlikely to look for an equivalent outside the entertainment field, where a similar monolithic corporation (such as Xerox) might be found.

The reader then perceives that the impact of this universe has been felt by two classes: "Americans" and "others throughout the world." Concrete and formal readers would be able to define who belongs to each class. But then, the concrete reader's empirical classification schema is likely to perceive the author's final classification scheme as a simple list of Disney enterprises. It takes the more formal level to perceive that "parks" are a medium just as "television" is and then to speculate on the meaning of that class by asking "what kind of medium?", "medium for what purposes?", "how are they part of the same class?", and "is such a grouping a logical representation of reality or merely a forced category that is used to serve the author's thesis?"

Reasoning in this manner is formal because it depends on the shift in point of view which accompanies hypothetico-deductive thinking. As Piaget (1972) states, such thinking

> changes the nature of discussions; by using hypotheses we can adopt the point of view of the adversary (although not necessarily believing it) and draw the logical consequences it implies. In this way, we can judge its value after having verified the consequences. (p. 4)

Thus, the very essence of critical and evaluative reading is by definition an act of formal operational thought.

Hypothetico-deductive reading reflects the deductive process of the scientific method. It proceeds through four basic stages: (1) establish hypotheses, (2) collect data, (3) analyze data, and (4) conclude whether or not the data support the hypotheses. Hypothetico-deductive thinking is a critical aspect (if not THE critical aspect) in university reading tasks where judgments are called for and ambiguities must be resolved by recognizing possibilities (or hypotheses) and withholding judgment until all of the data are collected and analyed.

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COMPUTER ASSISTANCE ACROSS THE SKILLS: VOCABULARY DEVELOPMENT THROUGH CBE

by
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Since the pioneering work in computer-assisted instruction (CAI) in 1960 with the Illinois PLATO project, the possibilities for educational computer applications have skyrocketed. During a mere 25 years, computerized learning expanded to include math, science, business, and now English and reading.

Now, with a technological picnic basket of Apples and other tempting treats, educators need to check their consumption of available courseware. In fact, according to a recent article in the *Journal of Reading*, "The most pressing need in CAI in reading is the development of adequate software" (Marsh, 1983).

New authoring systems, especially for micros and pre-programmed menu-driven systems, helps alleviate this shortage by allowing classroom instructors to design programs that directly relate to class objectives, materials, and activities. When the University of Northern Colorado purchased the PHOENIX CBE (Computer Based Education) system, which contained an easy authoring CAI/CMI format, I opted for a self-written computer program for my reading students. This program focused on key Latin and Greek morphemes which I felt were essential tools for their learning but which also represented troublesome roadblocks to their vocabulary development. My CAI lesson, RVOCAB, allowed students flexible time for individualized learning and reviewing of 20 commonly used roots and prefixes, and insured a 90 per cent student mastery level of those morphemes. The program, written for college freshmen in a developmental reading course, supplemented the curriculum and provided a change of pace to reinforce classroom and lab activities. (As an aside, proponents of CAI note that culturally disadvantaged learners benefit from computer instruction (Marsh, 1983); I add that educationally disadvantaged students likewise enjoy and benefit from computer interaction.) In the rest of this paper I shall describe the main features of my vocabulary CAI/CMI program, sharing some personal observations about authoring CBE materials.

The CBE system I used was PHOENIX, developed by Goal Systems of Columbus, Ohio, linked to the university's IBM 3081 mainframe. Although the initial scripting for the program took six months, the over-all advantages of using the system were many:

1. The only language I needed to know for authoring was English.
2. The system was user-friendly; that is, the students did not need to learn a complicated set of codes to operate it.
3. The system had a capacity for 660 students, with the potential of expansion to 9,600. That certainly accommodated all the students that I could possibly persuade to sign up for reading.
4. The University of Northern Colorado purchased the system ($20,000) and provided terminals located in the computer centers and library, free of charge to faculty and students. This both allowed easy access to the terminals during many hours of the day and evening, and avoided a financial burden to the department budget.
5. For each instructional course program, the system had the capacity of 26 units or lessons, 32 objectives for each of these units, and three levels of difficulty for each instructional item, with the potential of 99 frames per item. Therefore, the system had more than the capacity I needed for my lessons. (For those of you who revel in computer capacities, the present capacity of PHOENIX is 32,400 blocks, each block having 512 bytes.)
6. The system provided both CAI and CMI components. As a result, I could test my students in a manner compatible with the CAI lesson format.
7. I was freed from scoring lessons, giving tests, and keeping records, and could therefore spend more of my time in matters much less mundane.
8. The CMI component allowed the students a chance to retake tests as many times as needed to achieve mastery. Since the computer scrambled and randomly picked 20 test questions from a bank of 200 for the pre- and post-tests, no two CMI tests appeared alike, thus allowing for test equivalency.
9. As an author for the program, I enjoyed various rights, such as managing course security, allocating space for other instructors to use the course (if I permitted them to do so), and implementing course content.

Since a major emphasis of my reading course is vocabulary improvement, I chose a program related to this topic to reinforce some of the ideas discussed in the class. However, since writing a CAI package represented a new venture and my neophyte computer skills demanded a realistically manageable topic, I chose the identification and definition of commonly used Greek and Latin morphemes as my topic, in the process creating a file of over 299 words that ranged in difficulty from easy, to medium, to hard. Level A (easy) words included *recreation, prehistoric,* and *export*--words in general use. Level B words of medium difficulty, such as *precocious, incognito,* and *unruly,* were words familiar to many college freshmen. On the other hand, Level C words, such as *orthography, vertigo,* and *sublimate,* provided a vocabulary challenge to most freshmen.

The RVOCAB CAI program presented both explanations of word derivatives and cooresponding multiple-choice test questions. The student also received feedback about program responses: The program reinforced correct responses with additional description and examples; the student who made an incorrect response was required to choose another answer before being allowed to continue to the next instructional item.

The RVOCAB program had two main objectives: defining a specific morpheme and identifying that morpheme in a Level A, B, and C word. In the future I would like to add a third objective involving the application of these morphemes to unfamiliar words.

As a response to my two objectives, I created two separate units: "Defining Greek and Latin Roots" and "Getting to the Root of It." The matching CMI tests used the same unit titles, objectives, and instructional items. The computer randomly picked 20 multiple-choice test questions from the bank of 200. As a contrast to RVOCAB, though, the student could pick only one response per item, with no corresponding feedback or explanation. Each student had to take the post-test. In each test, mastery level was 90 per cent, with highest weights given to Level C words and next highest to Level B words. If the student did not achieve mastery level, then the computer did not acknowledge the student's completion of that test. At the end of the quarter, when I reveiwed the class profile sheets, I noted whether the student achieved mastery.

In developing each CMI and CAI lesson, I found that the key to authoring the program was outlining. The PHOENIX system, a menu-driven system, aided in the development of that outline by requiring that pre-scripted courses, units, lesson objectives, levels of mastery, and instructional items be clearly specified. A flowchart, noting sub-levels and branches in the program, helped in constructing a visual aid describing the relationships between objectives and items.

On the whole, I found that authoring a CBE program through PHOENIX was a new mode for communicating to my students information that could be regarded as simplistic, lower-level, comprehension routines. The computer exercises represented good warm-ups in language awareness for further body-building in vocabulary usage.

The students welcomed the change of pace in instructional presentation and enjoyed the hands-on interaction with the computer. However, unless additional follow-up activities such as discussion, related compositions, or applications in contextual samples integrated the CAI program with classroom activities, the over-all benefit fo the CAI program was minimized. Therefore, additional reinforcement of the 20 morphemes presented in RVOCAB through class and home assignments assisted in the students' confidence and expertise in using them.

During my self-induced trials in authoring the program, I discovered a few hints about CAI/CMI authoring that I believe can be applied to authoring in any instructional package:

1. Choose a user-friendly system.
2. Choose an author-friendly system. Become familiar with the computer codes for entering data and for manipulating the various commands.
3. Before writing any program, write out clearly defined objectives, script the instructional items, and develop a flowchart to note the sequencing and sub-sequencing of information. Include feedback and remediation.
4. In developing multiple-choice test questions, which have been proven to be valid as a computer feedback response in checking comprehension, leave "I don't know" as an option. Include hints when appropriate.
5. In writing feedback, avoid degrading comments; instead, accent the positive and use humor when appropriate.
6. Create a personal touch. One advantage of a computer is that the author can enjoy the use of the second-person pronoun "you". A tutorial dialogue creates a more friendly environment for the student.
7. Use your own creativity, personality, and scribal fluency. The computer becomes an extension of the author's expressiveness.
8. Write for your audience. Avoid using fancy jargon or over-inflated sentences. For adult readers, strive for 10th-grade readability. Even in vocabulary programs, where much of the material should be a verbal challenge, I suggest that a simple style be used.
9. In creating the program, be item-specific. In other words, the instructional frames with the corresponding multiple-choice test questions must constitute the primary meat of the program.
10. Create a test item after two or three instructional frames to let the student interact with the program. Unlike a book, the computer has the capacity of immediate feedback in checking comprehension.
11. When entering the script, do not crowd the screen with extended paragraphs. Keep the narrative easy to read visually as well as semantically.
12. Write clear instructions for using the program.
13. Provide follow-up instructional materials and activities for the program.
14. For each CAI lesson, provide a corresponding CMI test of no more than 20 test items.
15. Keep the CAI program short so that the student can finish it within 20 t0 30 minutes.
16. Provide levels of instruction within the program to accommodate different levels of learners.
17. Schedule a training day for student users so that they can learn how to use the system independently.
18. Integrate the program into total course curriculum.

An individually authored CAI/CMI program incorporates the best of individualized self-paced learning with the best of interactive reinforcement of course goals and objectives. The choice of topics for computerized instruction in any of the skills, including vocabulary development, is limited only by the author's range and depth of expertise in manipulating a CBE system. Like the phoenix in ancient mythology, the PHOENIX CBE system represented to me a way to recreate new life in instructional format, giving birth to new ventures in learning.

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LEARN: TIPS FOR SKILLS CENTER INTERVIEWERS

by
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Student: Can I sign up for a tutor?

Skills Center Interviewer: Sure, in which area?

Student: Math.

Skills Center Interviewer: O.K. Let's see which tutor is available . . . .

In some cases, the appropriate referral for a student seeking help in math would be a math tutor; however, the adviser in this particular case may not be directing the student to the best campus resource. An adviser who asks the student why a math tutor is being sought might discover that the student feels jittery before the final exam and needs ways of dealing with test anxiety. Or perhaps the student has been sick for two weeks and is afraid to ask the instructor for information.

The purposes of this paper are to explore the interview/referral process as the initial phase of a helping relationship and to examine the dimensions of the helping interview so that those involved in referring students to tutorial or other campus resources may direct students appropriately.

Rogers (1961) defines a helping relationship as one "in which at least one of the parties has the intent of promoting the growth, development, maturity, improved functioning, [or] improved coping with life of the other." Brammer (1979) further notes:

> Helping another human being is basically a process of enabling that person to grow in the directions that person chooses, to solve problems, and to face crises. This process assumes the helpee is aware of alternatives and is willing to take responsibility for acting on an alternative. Helping involves facilitating awareness of such alternatives and assessing readiness to act. Help, however, should be defined mainly by the helpees, who select the goals of their own growth, and who also determine whether they want help at all . . . . The aim of all help is *self-help* and eventual self-sufficiency.

In many ways, the interviewer is the bridge between the incoming student's deep waters of frustration and the shores of safety. Thus, in an academic support center or in a traditional advising situation, the goal of the helping interview is to help the student become aware of alternatives and to recognize how those alternatives can be explored.

As a type of road map for conducting a helping interview, the LEARN strategy described below allows the student not only to explore those alternatives on campus, but also to determine effective ways of using them. This strategy can be summarized as follows:

LISTEN to the student's needs;

EVALUATE what the student really needs;

ARTICULATE this evaluation;

REFER the student to the appropriate resources after describing them;

NEGOTIATE appropriate goals in using the resources.

Phase One: Listen

The first step in conducting a successful interview involves creating a comfortable one-to-one sharing environment. Carkhuff (1980) emphasizes the importance of attending physically and psychologically to the client so that the focus of the conversation is on the student. For instance, the setting of the interview should minimize such distractions as phone calls and other interruptions. The interviewer should sit near the client, rather than blocking the student with a large, heavy desk. The interviewer should address the student, not the stack of papers that need to be corrected. Carkhuff further emphasizes the need to understand where the student is--emotionally, psychologically, and socially--in relation to where the student wishes to be.

The sensitive listener not only attends to the student's verbal messages but also responds to the nonverbal ones. Egan (1975) summarizes this dual task of the listener:

Verbal: He has to listen attentively to the words of the clie..., however confused they might be.

Nonverbal: He has to listen to the messages that are carried in the client's tone of voice, silences, pauses, gestures, facial expressions, and posture.

Perhaps the junior with a 2.8 GPA who pleads to take the freshman reading and study-skills course really needs a three-credit class on Monday/Wednesday/Friday that fulfills the general-education requirements.

The goals of listening in a helping interview are understanding and exploring what the student really needs. Egan (1965) notes that "the search (should be) as concrete as possible and will gradually deepen as the person in need comes to trust the helper and his skills." The particular skills that Egan refers to include empathy, respect, genuineness, and concreteness.

The initial interaction between student and helper sets the tone for the student's willingness to open up and share what the essential needs are; furthermore, those needs may not be obvious until a deeper level is explored. For instance, a non-traditional student working full-time and caring for small children may need to drop a three-credit math class from an eight-hour load instead of getting a tutor; a sophomore experiencing difficulty in a psychology class may really need to learn some hints for taking multiple-choice tests, and the history student upset with a mid-term grade may need some note-taking and time-management hints. The interviewer in many of these situations serves as a buffer against many of the student's anxieties, fears, and frustrations, and acts as a bridge to effective ways of coping. In fact, by ventillating some of those fears, the student may discover that a tutor, counselor, or instructor cannot take the place of inner strengths.

In most instances when a student walks into a learning center for tutorial help, the referral interview is student-initiated; therefore, the student may be more willing to describe the nature of the problem than in an interviewer-initiated session. If the student, though, is on the verge of failing a class, or frustrated from a test, or choked up from a roommate problem, the emphathetic listener can create a comfortable environment by making open-ended comments.

"*Tell me how you feel about your class . . . .*"

"*Please describe how you think I can help you . . . .*"

"*I understand that you wanted to sign up for a tutor . . . .*"

During the openers and throughout the exploration of a problem, a few rules of thumb apply. Since the goal of the listening stage is to determine the nature of the problem, it is important to be as specific as possible, sticking to facts rather than to broad generalities. The foci of the interview are the student and the problem the student faces, so the objective should likewise be to see as much of the whole picture as possible, albeit from the student's perspective. To encourage the unfolding of the problem, the listener needs to avoid jumping and giving advice, or telling stories, or even making sarcastic comments, although appropriate humor can help take the edge off a tense situation. The listener should be comfortable with silence, allowing the student enough time to share both feelings and the content of the problem.

The listening phase comprises most of the typical interview. Many students do not really know what kinds of campus resources exist, but they do know the frustrations of an academic environment. Sometimes angry, depressed, or confused, these students strive most for understanding, and they appreciate an environment where they can blow off steam and realistically assess the situation. For some students, the atmosphere of nonjudgmental concern provides the quiet environment that they need to feel like integrated, worthy people in a sea of busy class schedules, large numbers, and overdue assignments.

Phase Two: Evaluate

The second step in this paradigm involves evaluating what a student really needs. Although this phase is inseparable from the listening stage, the interviewer should take an objective look at the nature of the student's problem before making a professional referral. Discriminating facts from opinions, feelings from content, and parts of the picture from the whole, the interviewer needs to give the student feedback about the problem and information about available services.

In this phase of the interview, the interviewer should be acutely aware of personal biases and prejudices to avoid agreeing to half-truths or hasty generalizations; the professional diagnosis involves looking at many sides of the problem. Therefore, the interviewer should try carefully to analyze and synthesize not only what the student is saying but also which resources would best meet the student's needs.

In making an evaluation of the needs, the interviewer can prescribe more than one resource: A "package" of options allows the student to explore alternatives previously not considered, and if one of the alternatives does not work, the student has other possibilities for improving academic success.

The skilled interviewer can minimize the waste of campus resources and can help the student focus on the best set of alternatives, even though different from the initial request. The professional interviewer, then, need not be embarrassed in suggesting a prescription different from the initial request.

One of the major differences of a referral as a helping interview versus a counseling session as a helping interaction is that during the meeting the student does not expect the interviewer to solve the problems: The student expects a direct link to others who will provide assistance. In this sense, the interviewer must lend more than a ready ear to the student's problem, and must provide a solid referral to other campus resources. Therefore, in a short time, the interviewer needs to form an accurate appraisal of not only where the student is but also where the student hopes to be.

Phase Three: Articulate

Up to this point, the interview has centered on the nature of the problem; however, in this phase, the interviewer articulates an evaluation of his or her perception of the problem. Although the translation and synthesis of the problem rest primarily with the interviewer, the student still has the chance to accept or reject the interviewer's evaluation.

The purpose of this phase of the interview, then, is for both the student and the interviewer to agree on the diagnosis of the problem. The student may see the problem in a totally new light or may even reject the interviewer's diagnosis. Before the referral occurs, though, both persons must reach an agreement concerning the nature of the problem; otherwise, the student may not understand why the interviewer will suggest specific alternatives and resources.

Carkhuff (1980) provides one model for this phase. He suggests that the helper should respond to the client's feelings and content to reach a level of understanding:

> To be truly effective in helping, we must be able to go beyond the material which the helpee presents. We must, in a very real sense, be able to add to her expressions. In addition, we must be able to filter this new understanding through our experience and come up with our own direction in the helping situation.

In Carkhuff's model, the effective helper needs to personalize the problem, feelings, and goal. For example, when Ann, a senior who is taking the English competency exam (a requirement for graduation) in one month, drops into the Writing Center to prepare for the exam, she explains to a tutor that she has failed the exam three previous times and wants to be sure she'll pass the exam before she does her student teaching. The tutor notes that Ann's papers are filled with mechanical errors, though her over-all organization is good. The tutor subsequently outlines each of her grammatical problems and shares this evaluation with Ann. At this point in the interview, Ann can clearly see her specific weaknesses and yet feel confident about her strengths. As a result, Ann will be able to set some goals within a reasonable time frame to be able to prepare for the exam.

For many students who seek learning assistance, the interviewer's response to a student's problem helps set the tone for future interactions with a tutor, counselor, or instructor. Responding to the feelings of the client is just as vital as responding to the content. If the listener extends a feeling of unconditional positive regard, which Rogers (1961) describes as essential to a helping relationship, the student will have the emotional space needed to clarify what needs to be done. Perhaps the student is painfully aware that the solution to the problem is not with another person but within the student; yet the student may also need this feedback from someone else.

Egan (1975) stresses the importance of confrontation in a helping relationship. Discrepancies, distortions, games, tricks, smokescreens, and evasions need to be confronted with empathy, with care. Realistically though, the interviewer needs to be careful about jumping to conclusions, and, at least in a first interaction, to avoid prejuding a student's motives.

Some students, though, especially in a center where assistance is readily available, promote a dependency on tutors and support staff. The interviewer should check for recurring patterns and articulate this observation:

Skills Center Interviewer: *John, last quarter you had a math tutor, the pervious quarter you had a math tutor, and you are asking for a math tutor again this quarter.*

John: *Yeah, math is a tough subject for me.*

Skills Center Interviewer: *Yet even with a tutor you barely passed with D's.*

John: *I guess I'm not understanding the exams.*

Skills Center Interviewer: *Perhaps we should explore your test-taking in math, John and see if there are some other alternatives. Even with a math tutor, you are still having great difficulty.*

In summary, the articulation of the problem lays the groundwork both for the referral and for setting learning assistance goals for the student.

Phase Four: Refer

After the specific problem of the student has been diagnosed, the interviewer can describe several options for the student. Specific names of tutors, counselors, professors, campus programs, and resources along with their locations and phone numbers should be listed on paper. More importantly, though, the interviewer should explain each of the resources as succinctly as possible, so that the student will know what and whom to look for in locating the resources. A good referral will not only save time for the student, but will also reflect back on the interviewer's reputation as a helper.

Sometimes the reluctant student is afraid to follow up on a referral, especially to an unfamiliar office or to a hard-to-reach professor; the interviewer may want to explore some of those feelings to help the student seek out the resources more confidently. When possible, a direct phone contact or face-to-face introduction can help allay some of the initial fears of meeting a new tutor or scheduling an appointment with a professor. Throughout, the referral should emphasize the student's role in utilizing the resources. The student need not feel at the mercy of the academic tides, but should learn how to navigate the seas of bureaucracy instead of drowning in the storm of confusion.

Phase Five: Negotiate

A professional referral should not end immediately with the interviewer's providing a list of possible resources. Since most students are basically unaware of the multitude of resources on a college campus, the interviewer helps the student select a "package" of resources and determine specific goals in using these resources. This last phase may determine whether the student will follow through with a referral: Negotiating goals is the bait for future success since they also list specific steps in working with the resources. In most cases, if a student can clearly articulate what should be improved, the person providing the assistance will be able more effectively to plan the remediation.

The interviewer can help the student articulate the goals either orally or on paper. Carkhuff (1980) suggests operationalizing goals by listing specific steps in a plan of action:

> Defining or operationalizing the helpee's goal is the first step in developing an action program. Defining the helpee's operationalized goal is based upon the helpee's personalized goal. It is necessary to define the helpee's operationalized goal in terms that are observable and measurable. Defining a goal in observable and measurable terms usually means describing the goal in terms of the number of times, percent of time or amount of time the helpee will spend doing some behavior. Operationalizing will aid us in determining whether we achieved our goal or not.

The student should list not only specific persons, places, and goals for operationalizing the goal, but also a schedule for executing a plan of action, including expected outcomes of that goal. For example, once Ann, the senior planning to take the English exam, knew which areas she needed to improve, her goal included reviewing specific grammatical concerns, rewriting her essays, and returning to the writing center in a week for a second evaluation.

In closing the interview, the listener may invite the student back for a follow-up interview to discuss how the student is meeting the goal and using the resources. However, if the student brings up new material, the best tactic is not to delve into another exploration of the problem but to summarize what has been discussed and to plan to meet for another session. If another interview is scheduled, the student should write the date and time in a reminder notebook.

Benjamin (1974) suggests several appropriate closings: a summary of the major points, highlights of matters to consider, mutual feedback to verify what both discussed, or just a general concluding statement. I have found it helpful to double-check the student's information to note the accuracy of the names, locations, and phone numbers and to re-articulate the learning-assistance goals.

The LEARN strategy provides a model for an effective, professional referral for support staff, advisers, and counselors. This model helps students explore the essential problems they face and to explore realistic opportunities for improving their academic success. Finally, it opens the door to a myriad of alternatives, including a student's discovery of personal strengths and of the steps needed to explore how to improve weaknesses.

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REASONING:
THE DEEP STRUCTURE OF STUDY SKILLS INSTRUCTION

by
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After completing a study skills text that attempted to integrate skills (Sotiriou, 1984), I came to identify four reasoning skills that explained the processes students needed to use for the book's reading, listening and writing exercises. As I continue to analyze these four skills, I am finding ways by which they can benefit the study skills instructor in the teaching of various units as well as the student in completing the study skills exercises. Identifying these four reasoning skills and applying them to study skills exercises, I suspect, is only the beginning phase in the development of a critical thinking or reasoning base for study skills instruction.

The four reasoning skills that I identified are 1) classification, 2) sequencing, 3) evaluation, and 4) synthesis/creation. I will briefly explain each term; a more thorough explanation of these four processes can be found in the teacher's resource manual to my text (Sotiriou, 1984, pp. 4-11). In *classification*, a student names a body of information or associates a bit of information to a larger chunk of information. A student, for instance, who identifies the word "great" as an adjective and compares an adjective to the other parts of speech is employing the skill of classification. In *sequencing*, a student organizes information into logical steps or patterns. A student who presents a series of axioms and theorems to solve a geometric proof is sequencing information to arrive at a correct answer. In *evaluation*, a student judges the relative merit of a particular object, work, or idea. Evaluation, for example, is a necessary process that a student employs in writing a film critique. Finally, in *synthesis/creation*, students create something original. Writing an essay, in the strict sense of this reasoning term, is an example of synthesis/creation. No two student essays are exactly alike; ultimately, each student essay expresses the unique voice and style of its author.

What struck me as most interesting about these four reasoning skills are the various levels of sophistication inherent in each process. A child who calls a teacher Miss Jones and later calls her teacher is demonstrating the reasoning process of classification, while a four year old who counts from one to five is employing on a very basic level the ability to sequence. On a much higher level of sophistication, on the other hand, Samuel Taylor Coleridge's reviews of Shakespeare's plays are examples of the evaluation process, while Tolstoy's *War and Peace* is clearly an example of synthesis/creation. What I ultimately realized from analyzing this wide spectrum of tasks and works employing these four skills is that reasoning, like speech, is a human skill, employed by all humans at various levels of sophistication. This realization gave to reasoning skills a tremendous teaching applicability because I could demonstrate to my students their relationship as thinkers to more advanced, often psychologically threatening works that they were assigned to read and to analyze.

How To Use Reasoning Skills in Teaching Study Skills

Having identified these skills, I realized the tremendous potential they had for explaining various study skills exercises. The instructor could analyze a particular study skills activity in terms of the various reasoning skills employed. Students might be more successful in completing an exercise if they knew what reasoning skills they needed to employ. Further, I came upon the useful generalization that the more reasoning skills one employed, the more difficult the assignment tended to be.

What reasoning skills, for example, does a student need to answer the following question?

Write the general classification or main idea for the following details in this outline.

I. ______________

A. classical

B. jazz

C. rock and roll

D. folk

On the surface, the question is asking for students to determine main ideas from the details presented. But on a deeper level, the question is dealing with the classification process, where students are categorizing information into general and specific compartments. Knowing this deeper process allows an instructor to be more exhaustive in analyzing student errors. A student consistently missing such questions needs more work in categorizing specific and general information. For the student who has been taught something about the reasoning skill of classification, the above question becomes part of a continuum of classification skills. This student might recognize that the above question is part of the same kind of critical thinking as knowing that Mrs. Jones is both a woman and an instructor. Reasoning skills and study skills then becomes a less threatening, more integrated part of a student's thinking.

Reasoning skills can also prove beneficial for the instructor and the student in the teaching and the learning of notetaking skills. In an assignment where a student needs to listen to a lecture, the student needs 1) to condense information and 2) to select main ideas and significant details. Two reasoning skills are in operation--classification (determining main ideas and details) and evaluation (selecting significant details). If a student has taken incomplete notes on a particular assignment, the instructor can check to see whether the error lies in classifying information or in evaluating it. With these two reasoning skills as a base, the instructor can more efficiently diagnose the student's errors, deciding whether more basic work in classifying information or in evaluating information is necessary before the assignment can be completed successfully. For the students, simply knowing that two reasoning skills are in operation will give them some sense for the difficulty level of the notetaking assignment. Often part of a study skills student's frustration is not seeing how one assignment is more difficult than another.

Reasoning skills can just as effectively be applied to analyzing a student's use of the SQ3R study system in mastering text material. In using the SQ3R on text material, students employ all four reasoning skills: 1) classifying information into main ideas and major details, 2) sequencing the study process through the steps in SQ3R, 3) evaluating what are important questions to formulate as they recite; and if students create study maps to synthesize the text material, they are 4) employing the synthesis/creation reasoning skill, transforming verbal material into an original visual pattern. Seeing how complex the "deep structure" of this assignment is will give a study skills instructor specific reasons for demonstrating the difficulty level of the study reading process. The instructor and the student can therefore see why SQ3R cannot be mastered in one class session. Further, instructors can target specific learning difficulties that their students face in the SQ3R process by isolating certain reasoning skills that have not been mastered. From the students' point of view, understanding the various critical processes needed to read text material effectively will give them an objective sense for the complexity of the task. Students can see how previously mastered reasoning skills are also employed in the SQ3R system. Being aware of the similarity of reasoning skills employed in various tasks should provide students with a more integrated attitude toward their study skills assignments.

Finally, these same four reasoning skills can be employed when a study skills instructor discusses writing the essay exam, perhaps the most difficult skill for a student to master in a study skills course. Again, all four reasoning skills are in operation. In preparing a pre-writing outline, students need to classify information into main ideas and major details. Then, they need to follow a set pattern of writing sequences in completing the essay (preparing the outline, writing, and revising). In composing the essay, of course, students need to evaluate the information in order to select the most significant details. Finally, the act of writing is an example of synthesis/creation; information is often reordered, and the final response is an original statement in the style of the writer. Knowing that these four reasoning skills form the underpinnings of an essay response will help the instructor, as in evaluating the SQ3R process, to diagnose the kinds of writing problems that students have.

For the students, merely knowing that all reasoning skills are employed in composing an essay response will give them a sense for the complexity of the writing process. Further, basing writing on reasoning skills clearly separates the critical thinking process involved in writing from issues of mechanics. All too often, students are hesitant to write because of their fear of making errors in grammar and usage. Finally, writing from a reasoning base allowed the student to see how the act of writing shares reasoning skills similar to those used in reading and outlining exericses.

The Future of Reasoning Skills in Basic Skills Instruction

It seems that a reasoning skills-critical thinking pedagogy for a study skills course and other basic skills courses will provide a workable framework for the instructor and students to explore in this decade. The task before study skills and basic skills instructors is to elaborate on this basic list of four reasoning skills, to begin to provide a hierarchy of skills to master in each reasoning process. Ideally, in this way, students deficient in a particular reasoning skill should have a resource of sequentially more challenging skills to refer to as they complete a study skills course.

Noam Chomsky and other generative grammarians have provided a continuum of language acquisition and sentence building skills from childhood to adulthood, and reading specialists have identified specific reading skills and have provided levels of instruction for each discrete skill. It will be, I believe, the challenge of basic skills instructors engaged in critical thinking instruction to provide a similar hierarchy of reasoning skills and exercises that will advance the critical thinking skills of their students, abilities that are inherent in the way all of us interpret the world.

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R.E.A.D.S. ACADEMY
(REMEDIAL EDUCATION AND ACADEMIC DEVELOPMENT FOR SURVIVAL)
AT SAN JOSE STATE UNIVERSITY

by
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R.E.A.D.S Academy is a basic skills project which for the past four years has been developing a model demonstration program for teaching learning-handicapped parolees from the California Youth Authority and probationers from the juvenile justice system to read, write, compute and develop the social and vocational skills needed for success in the job market. This project, aimed at out-of-school youth whose basic skills are below fifth grade level, was funded for two years under the Basic Skills Program in the U.S. Department of Education, which no longer is available as a funding source.

Program Objectives

R.E.A.D.S. Academy has two principal objectives: (a) to teach basic skills of reading, writing, mathematics, social and vocational skills to out-of-school ex-offender youth and (b) to train teacher-candidates from the Learning Handicapped Specialist and Court School Certificate Programs at San Jose State University to teach these hard-to-motivate school-rejecting young people. This teacher training program enables teacher-candidates to learn techniques and methods to teach these learning-handicapped students who come from different social and economic backgrounds. A procedural manual has been developed which details activities leading to development of similar programs in other areas and will be made available to interested educators.

A Unique Project

R.E.A.D.S. Academy is the only project nationwide which is teaching this difficult-to-motivate population. It is unique in its individualized approach to addressing the particular identified needs of each student. A survey of the literature revealed that other programs work with ex-offender youth populations, but they do not restrict their programs to learning handicapped youth who read below fifth grade level and who have no other alternative educational or vocational opportunities. This population has special needs and it is a particularly difficult group with which to work.

The major groups who have benefited from this project are (a) the parolees from the California Youth Authority and juvenile justice caseloads who have no educational alternatives; (b) students enrolled in the Learning Handicapped Specialist Credential and Court School Certificate Programs and other programs in San Jose State University, California; and (c) parents and communities who no longer have these unmotivated poorly-supervised youthful ex-offenders at loose ends. This program intends to benefit youth for whom similar programs will be offered in other areas as well as the society at large.

Important to the functioning of R.E.A.D.S. Academy are its community ties. In addition to working closely with California Youth Authority parole officers, juvenile probation officers and local high school counselors, R.E.A.D.S. Academy also has an active advisory board made up of influential members of the local minority community, Volunteers in Parole, and police organizations.

Location

R.E.A.D.S. Academy classes are held M-Th 4-7 p.m. during the academic school year in Sweeney Hall Rooms 230 and 231 at San Jose State University (SJSU). Other individualized instruction is offered during daytime hours in the Reading Laboratory facilities in the School of Education at San Jose State University. The program is scheduled in this manner so that students can work and still go to school. In addition to a director and coordinator, instruction is conducted by credential candidates from the Learning Disabilities Specialist and Court School Certificate Programs. Counseling services are offered by MA candidates from the School of Education Counseling Program. Other faculty, volunteers, and paid and unpaid graduate and undergraduated students assist with the program.

Curriculum

Individual instruction plans -- based on competency testing -- are devised for each student with both long range and short range measurable objectives set up in reading, writing, mathematics, social and vocational areas. This individualized approach enables R.E.A.D.S. students to take the G.E.D. earlier than would group instruction.

The curriculum in R.E.A.D.S. is based on the needs of the students to gain survival skills. The student-teacher ratio is 3:1. Students work one hour each day on math and one hour on reading skills. Social studies, science, art activities or career counseling is the focus of the third hour. Academically prepared students are encouraged to obtain high school diplomas by taking the G.E.D. or High School Proficiency Test. Commercial test preparation books are used to enrich vocabulary, assess skills, and provide test taking strategies.

Reading levels range from pre-primer to fifth grade. Texts used include *Multiple Skills Series, Concepts in Reading, Adult Learner Series, Corrective Reading Series, Reading for Understanding Cards,* and *Language 200/300* booklets. Functional reading materials include local newspapers, menus, cereal boxes, phone book yellow pages, traffic signs, maps and personal experience stories.

Survival math skills are taught with a variety of materials. The Burnett Math Contracts provide the core of the program. Individual, systematic lessons focus on whole number operations, fractions, decimals, percents, and graphs. The Probe series and personalized flash cards are used to reinforce facts. Much time is devoted to work problems based on daily like situations, such as computing hotel prices or mileage rates, doing comparison shopping, filling out loan applications and using recipes.

Reading and math lessons are usually provided on an individualized basis. Students work in teams in the other subject areas. Field trips and guest speakers supplement classroom instuction. In addition to academic endeavors, the classroom is the scene of talent shows, Thanksgiving banquets, and personal improvement seminars. R.E.A.D.S. provides a caring atmosphere and often acts as an extended family to build student self-esteem.

During the past four years, nearly 300 young people (ages 15-22) have been taught basic skills which enable them to get jobs or to qualify for other programs which have higher entrance requirements. These include 223 males and 61 females. R.E.A.D.S. personnel helped all students obtain work during summer, 1981. Even during the recession of 1982 and 1983, many obtained jobs. Vocational seminars and practice interviews are being held to enable these ex-offenders with minimal skills and poor self-concepts to obtain jobs in summer, 1984. The students' interest is maintained through regular contacts and activities such as picnics and excursions during the summers.

Personnel

Norma V. Spalding, Ed. D., Director, R.E.A.D.S. Academy and Associate Professor, Special Ed., SJSU, has been director of the Reading Laboratory Program at San Jose State University for the past eighteen years. She has written a test for learning disabilities (the Quick Neurololgical Screening Test) and has directed six research projects in learning disabilities and in basic skills for minority students.

Daniel A. Sanidad, Coordinator, R.E.A.D.S. Academy, is a Reading Specialist with an elementary teaching credential. He has worked with the Educational Opportunity Program, Upward Bound and the SJSU Reading Assistance Program, all heavily minority-oriented programs, for the past ten years. He has had direct experience working with adult and juvenile ex-offender populations.

Suzanne Garadis, a specialist in Learning Handicaps, is in charge of the instructional program. She has had eight years of experience working with learning handicapped students. Her experience has been invaluable in developing the cirriculum which emphasizes survival skills.

Dennis Chamberlain, a student in the graduate program in Educational Counseling, serves as counselor to the R.E.A.D.S. students. He has had four years of experience as a peer counselor in the University Alternative Program, which encourages ex-offenders to enroll in the university.

Counseling

Counseling services provide encouragement and the support necessary in taking risks. R.E.A.D.S. students lack the ability to make the personal sacrifices and energy expenditures necessary for success in education and employment. Among the factors affecting student performance are familial demands, satisfactions of lower basic needs (i.e., food), and the inability to maintain consistency toward goal accomplishment. Counseling begins with program admission. It promotes the integral part of becoming educated--the ability to adjust to the changes of growth.

Early assessment of needs allows the R.E.A.D.S. staff to identify those in greatest need of counseling services. These students are placed in Phase I, allowing daily counseling for behaviors that promote educational enhancement. Phase I includes new enrollees, students with a high rate of absenteeism, those facing emotional problems, and students with a weak task orientation. It is not uncommon to find Phase I students living in neglectful families that require the students to babysit younger siblings when they should be attending school. Truancy patterns, together with educational frustrations, conceal the steps toward educational success, yet R.E.A.D.S. students remain in our school verbalizing the goals they wish to accomplish. Students within Phase II receive weekly counseling to encourage their classroom success. Phase II students are able to work within small group, as well as semi-independently. Progress through counseling comes with the uniformity of attention that bonds the students with staff. Long and short range life goals are attainable as students become consistent in behaviors which promote educational goals and they gain success within the educational setting.

Employment opportunities assist the development of self-esteem, promote goal accomplishment, as well as encourage positive affirmations amongst all. Many of the students can not gain common educational goals but do attain attitudes which allow them access to employment. Counseling services assist R.E.A.D.S. students in securing jobs by providing supportive guidance. These students often fail because they lack skills necessary to function within the normal work setting. Those who fail return to continue with educational goals until they secure acceptable positions. The support to lessen the risks of change, in addition to the encouragement to make sacrifices, has enabled the R.E.A.D.S. counseling services to remain an indispensable component for both students and staff.

Evaluation

Evaluations of R.E.A.D.S. Academy for the 1980-1983 school years were written by Stephen Schwimmer of the Santa Clara County Court Schools and James Carvolho, consultant for the *STARS/CASES* behavior management program. This program, devised by Dr. Robert Spaulding of San Jose State University, measures student-teacher interaction and behavior. Reports detailing these evaluations of improvement in basic skills of R.E.A.D.S. students are available.

An evaluation for the 1982-83 year was commissioned by the Whitney Foundation and written by Peter Treadway of RMC Research Corporation. A copy of this evaluation may be obtained by writing to Dr. Norma Spalding, Special Education Department, San Jose State university, San Jose, CA 95192.

Funding

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EVALUATION OF A PEER-TUTORING PROGRAM AT A COMMUNITY COLLEGE

by
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Introduction

Institutions with open-door policies have a responsibility to provide services and curricula which enable students to progress successfully through programs. Many institutions are attempting to meet these needs. A study by the University of Texas to determine how institutions were responding to unprepared students indicated that only 160 of the 1,489 schools did not have basic-skills programs (Rouche, 1983).

Schoolcraft College, a commuter community college located in the Detroit metropolitan area, met the challenge of providing for underprepared students by establishing a program funded by a federal vocational-education grant in 1979. This article suggests the success of one of its major service components--peer tutoring.

Program Description

The Learning Assistance Center (LAC) at Schoolcraft College offers a wide variety of free services, including testing, drop-in lab, credit classes in study skills, handicapped services, and peer tutoring. Last year the LAC served approximately 2,000 of the 8,000 students enrolled at the college. Program participants reflect the school population--predominantly white, average age of 28, 50 per cent attending on a part-time basis.

Peer Tutoring

Two types of peer tutoring are available--drop-in and individualized. For drop-in tutoring, tutors are hired for a specific number of hours per week depending on the subject, and tutees may come for as many of these hours as they wish. Although one-to-one tutoring is possible, generally tutors work with two or three students per hour. In fact drop-in tutoring is not designed to served students who need intensive, individualized assistance. The individualized tutoring program meets this need. In this program, appointments are usually scheduled as one-hour sessions, two to three times a week.

Tutees may participate in both types of tutoring. Because most tutees are self-referred, tutors generally work with interested students.

Tutors are Schoolcraft students who have received a high B or an A in a class, acquired a recommendation from a faculty member, and participated in a two-hour tutor-training orientation and subsequent meetings scheduled during each semester. Tutors are paid $3.50 per hour and may be hired for either drop-in or individualized tutoring, or for both.

From the winter 1980 semester to the present, data have been collected on the growth and effectiveness of the tutoring program. Initially the program consisted mainly of individualized tutoring. Students participating in individualized tutoring usually fell into one of the following categories: previously failed class, grade-point average below 2.0, failed exams or quizzes, handicapped. The individualized program dealt with students who had serious problems; therefore, the clientele did not represent a normal population. As a result, the percentage of students passing classes with a grade of C or better would not be expected to be high.

Figure 1 summarizes information gathered on the effectiveness of the individualized program.

Figure 1
Data on Individualized Tutoring Program

Semester	# of Tutees	Grades	% Earning C or Better
Winter 80	76	A-3, B-7, C-24, D-11, E-3. W-1	69*
Fall 80	97	A-4, B-15, C-32, D-6, E-2, W-22	63
Winter 81	102	A-7, B-15, C-38, D-10, E-12	73*
Fall 81	117	A-9, B-28, C-38, D-22, E-7, I-3, W-38	52
Winter 82	116	A-6, B-26, C-43, D-13, E-15, W-19	61
Fall 82	146	A-7, B-22, C-42, D-19, E-22, I-8, W-16	52

* Students who terminated before the end of the semester were excluded.

If four of the semester percentages presented in Figure 1 (omitting those of winter 80 and winter 81 because they do not include students who terminated before the end of the semester) are averaged, 57 per cent of the students in the individualized category received a grade of C or better. In view of the nature of the group we were dealing with, this percentage seems high.

During the winter 82 semester, a pilot program of drop-in tutoring was established. It was designed to serve students who had occasional questions about courses. In this program, 83 per cent of participating students received a grade of C or better. This percentage is much higher than that reported for individualized tutoring because students participating in drop-in tutoring were usually earning a grade of C or better already. Therefore, it would be expected that a greater percentage of these students would earn passing grades.

Figure 2 summarizes information gathered on the effectiveness of the drop-in program.

Figure 2

Data on Drop-in Tutoring Program*

Semester	# of Tutees	Grades	% Earning C or Better
Winter 82	40	A-3, B-14, C-8, D-2, E-2, W-3	83
Fall 82	191	A-24, B-22, C-42 D-11, E-16, W-29, I-4	59

* A number of students participated in both drop-in and individualized tutoring programs. Therefore, the winter 1982 and 1982 percentages presented in Figure 1 also reflect the influence of the drop-in program. Information was not gathered on the number of hours of tutoring received by each student for two reasons. Due to the structure of the drop-in program, it would have been extremely difficult to determine the number of hours of assistance students received, since

"visits" ranged from a few minutes to several hours over the course of a 12-hour day of service. Secondly, the number of hours of tutoring received, when considered alone, probably does not account for a significant difference in student success due to many other variables that enter a tutoring situation, such as the tutor's effectiveness, tutee's motivation, tutee's prior knowledge, instructor's effectiveness, onset of tutoring, self-selection process that occurs in a voluntary program, etc. A research study supports this contention. According to Irwin (1981), one to three hours per week of peer tutoring appears to be as effective as four to six hours in enhancing course grades. In addition, if Figure 1 percentages are examined, the winter 82 and fall 82 numbers do not appear to be different from the numbers reported before the implementation of the drop-in program.

During the fall 82 semester, the drop-in tutoring program was expanded, and individualized tutoring decreased (see Figure 3) due to prohibitive costs and increasing numbers of students requesting help. Consequently, the clientele changed: Students with serious problems began to participate in both drop-in and individualized tutoring. The dramatic drop in the number of drop-in tutoring students passing their class with a grade of C or better during fall 82 reflects this change.

Figure 3

Three-year Growth of Tutoring Program: Individualized Tutoring

	Fall 79	Fall 80	Fall 81	Fall 82
Hours of Individualized Tutoring	365	1039	1178	1017*
Tutees	30	97	117	146

* The decrease in the number of hours of individualized tutoring delivered during the fall 82 semester was due to the implementation of the drop-in tutoring program.

A comparison of Fall 82 with Fall 79 shows that 178 per cent more hours of individualized tutoring were delivered to 386 per cent more students. Thus, the growth of the tutoring program has been dramatic. An examination of Figure 4 underscores this fact.

Figure 4

Growth of Tutoring Program: Drop-in Tutoring

	Winter 82	Fall 82
Tutees	40	191
Tutor/Tutee Contacts	117	601

A comparison of fall 82 with winter 82 shows that 377 per cent more students participated in drop-in tutoring, and that student contacts increased by 413 per cent.

Conclusions

The data presented show that the peer-tutoring program at Schoolcraft College is successful. The dramatic growth of this voluntary program indicates that large numbers of students are obtaining the help they need.

In addition, the percentages presented on the number of students receiving grades of C or above are encouraging. However, as was mentioned previously, many factors influence student success, and these need to be examined in concert with learning assistance services.

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JOURNAL WRITING: A METACOGNITIVE STRATEGY

by
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College tutoring programs and study skills classes strive to help students become independent successful learners. In working toward this goal, college tutors and instructors help students to become aware of significant factors affecting their performances. In other words, students learn to develop metacognition -- an awareness of and conscious control over their learning strategies. They develop the ability to analyze tasks and texts as they relate to their own individual learning processes. More specific goals of college learning assistance programs ought to include helping students to (a) use learning strategies that work for them, (b) monitor their learning processes so they can identify those strategies which work best in specific situations, and (c) learn new strategies to replace the old, less effective strategies.

Metacognitive Strategies

Developmental psychologists became keenly interested in metacognition in the 1970's. Numerous studies indicate that children have difficulty with metacognitive tasks. They tend blindly to follow instruction and are deficient in self-questioning strategies that would help them make sensible corrections in their learning behaviors (Brown, 1980). Some college students seem to lack these same self-questioning strategies.

Successful learners have developed self-regulatory mechanisms to help them read, solve problems, listen and learn. These mechanisms include: relating a new problem to similar old problems, connecting the unfamiliar with familiar, monitoring the outcomes of specific attempts to solve a problem, planning a next move, and testing and revising strategies for learning (Brown, 1982).

Effective readers use a number of metacognitive strategies. They (a) clarify the purposes of reading in terms of explicit and implicit task requirements, (b) identify important aspects of a message, (c) focus attention on superordinate ideas rather than trivia, (d) monitor ongoing activities to be certain comprehension is occurring, (e) engage in self-questioning to determine if task goals are being achieved, and (f) apply new strategies when old strategies are not yielding comprehension (Brown, 1982).

A Rationale for Using Journals for Self-Awareness

One way to help students monitor their progress in analyzing significant factors is to teach them to keep an informal journal for the class or classes giving them the most difficulty. Journal writing is not a new teaching tool. Hundreds of articles provide suggestions for using journals in and out of school to develop self-awareness, writing and thinking skills, and to facilitate learning in content subjects.

Progoff's (1975) Intensive Journal Method has helped people of all ages and backgrounds to discover new inner strength and self-reliance. His work was influenced by Emerson's principle of self-reliance as the basis for human growth and dignity. Proff states:

> Emerson saw self-reliance as a principle of truth. The intensive Journal program takes that principle as its starting point, and provides a practical method by which each individual, at whatever his present level or condition, can experience the active power of self-reliance as a capacity available in the actuality of his life (p.15)

Journal writing refers to the private, self-expressive and reflective writing one can do as a way of understanding self (Kaiser, 1981). Craig (1983), one of Progoff's offical workshop leaders, is also a drama teacher. She has used journal writing as a personal and professional tool for promoting self-understanding and growth. She believes that writing facilitates a deeper understanding of what we know, what Progoff calls "learning that we know more than we know we know." People surprise themselves by what comes out in their journal writing. More formal writing usually prohibits that kind of self-expression.

Other educators support the use of journal writing to increase students' writing fluency, self-awareness, reading comprehension, and content learning (Britton, et al, 1975; Emig, 1971; Fulwiler & Young, 1982; Geeslin, 1977; Haley-James, 1982; Hoffman, 1983; Lehr, 1980; Ouzts, 1983; and Rogers, 1984.) Therefore, journal writing appears to be an appropriate tool for helping college students develop a greater awareness of their individual learning strategies, and ultimately, success as independent learners.

One of the strengths of Progoff's journal method is the careful structuring and sequencing of the specific journal entries. He found that, without structure, journals often became circular. A daily diary may not have the positive effect of Progoff's journal, because it never seeks to do more than record events in sequential order. He does not recommend that journals be used to help an individual measure him or her self against a standard. Since this use is judgmental, it has a tendency to increase the individual's feeling of guilt or inadequacy. Therefore, educators should encourage students to describe events and feelings, but not to make judgmental statements regarding their discoveries (Craig, 1983).

Enhancing Metacognitive Awareness Through Journals

Only a few articles suggest ways to use journals in college learning labs and study skills classes. Smith and Masuda (1982) encouraged students enrolled in a college study skills class to keep a "Problem Solving Diary." They were to record actions taken to change unsuccessful learning habits and the outcomes of such actions. Hoffman (1983) asked college students enrolled in a study skills class to record the process involved in becoming a successful college student. Hoffman's purpose was to increase the students' conscious awareness of the personal qualities and specific skills or strategies which lead to successful college learning experiences. For each of their classes, students wrote in a journal four times a week for all the semester's fourteen weeks. Discussion of the journals began after the students had kept the journals for four weeks. The instructor read the journals each week to make sure the students' writing focused on classroom behaviors. The classroom behaviors included comments on their participation, difficulty in paying attention or in understanding the teacher, what they learned, how the class related to other classes and what other students did in class. Every five weeks students reread the journal entries and wrote summaries. They were asked to find patterns of behavior that stood out -- both good and bad. Before writing their papers, they discussed their observations in small groups. The summary essays helped students take responsibility for their own behavior and attitudes in doing college work, and for the consequences of those behaviors.

The journal strategy described by Hoffman (1983) helped students develop metacognitive strategies. In other words, they learned how consciously to monitor and control some of their own cognitive processes. The emphasis in this situation appeared to be analyzing classroom strategies for listening and comprehending and study techniques. Metacognition also includes a reader's decision to read or process a particular section of text carefully and deeply and his/her option to skim another section according to decisions of importance and purpose. The effective reader engages in a variety of specific tactics to ensure the needed level of comprehension with conscious economy of effort. The reader must consider his/her own learning strengths and weaknesses, the demands of the task, and the value of success in terms of payoff (Brown, 1980).

Simpson (1983) recommends that college study skills programs reject the "blind training" model of teaching such study as highlighting, outlining and SQ3R. Reviews of study skills research have yet to conclude a best strategy. Strategies which get readers actively to interact with the material will have the greatest effect on learning. Students must be taught how to employ, monitor, check and evaluate the effectiveness of a variety of study strategies. Simpson (1983) suggests students be given self-checklists to help them monitor whether they are accomplishing their intended purposes.

A checklist may help some students consider various aspects of a task to be completed, but other students would benefit more from writing the answers to similar questions in a journal. Simpson's (1982) diagnostic model consists of questions within four variables which a tutor or instructor can help the students answer in order to improve study techniques. The four variable are (a) characteristics of the task, and (b) learning strategies employed, (c) characteristics of the text, and (d) characteristics of the learner. A journal technique could be more effective than an interview technique to elicit meaningful, accurate responses. For example, the first item Simpson suggests the tutor explore is "Does the learner know how and when he/she will demonstrate learning?" The tutor may ask the student, "What kind of test will you have? When?" If, before seeking help from a tutor, a student has not considered the answers to these questions and others, it is possible that the student will respond, "I don't know" or "I just know there's a 25 point quiz on Friday." Asking the student to write his/her thoughts on the original question in a journal without worrying about spelling or sentence structure may provide both student and tutor with valuable information which the student did not know he/she knew; writing about the test enabled the student to discover or become aware of previously unknown information.

This procedure for journal writing provides the kind of structure that Progoff (1975) finds so enlightening in the Intensive Journal Method. Each journal topic leads to new discoveries. Each new insight turns on itself to produce other insights, a backward and forward telescopic process. A list of possible journal topics related to each variable of Simpson's (1982) model is located in the Appendix. The tutor should plan to alternate journal writing with questioning in an informal interview format.

Students unfamiliar with journal writing will need to be encouraged to write for a sustained period of time (5-10 minutes), even when their initial reaction is that they don't have anything to write. Tell them to rewrite the question or to explain why they cannot answer the question. The process of writing often leads one to the answer.

Students can gain insight by writing about their behavior in a particular class that day. Students enrolled in a content reading class provided honest, insight responses, when asked to describe their behavior in class one day:

> *In the lecture I felt fairly confident when parts that I was familiar with were discussed, and when I would comment because I knew the answer and had something to say. When I didn't understand I was content to be silent and observe. Writing about it helped me realize my behavior. [Student 1]*
>
> *I could take a more active part in class, I need to try harder to concentrate on what is being taught. Yes, I was more aware of my behavior as a result of writing about it. [Student 2]*
>
> *I am a very capable learner if I want to be taught, being*

> *friday It dosen't look as if I really wanted to learn a whole lot. I'm robbing myself of knowledge when I become pesamestic.* [*Student 3*]

Students read their responses and then commented if reading what they had written had made them more aware of their behavior. Each of these journal entries could have led to an informative exchange between tutor and student regarding classroom study behaviors. In these examples some students started judging their behavior. Students should be discouraged from discussing the goodness or badness of certain behaviors in a judgmental way. This may do little but increase the student's feeling of guilt.

Guidelines for the Use of Journals

In addition to helping the students develop metacognitive awareness in order to become successful, independent learners, journal writing can help students monitor their learning strategies, so they know when they are accomplishing their goals and when they are not. Additionally, the instructor or tutor will:

(1) provide students with demonstrations of new strategies to try;
(2) ask students to monitor new strategies over a period of time by writing about the process and outcome in the journal;
(3) discuss emerging strategies with small groups of students (to initiate discussion, students may volunteer to read from their journals);
(4) help students see the connection between their attitudes toward a class and their classroom behaviors;
(5) make note of quantitative progress in the use of specific learning strategies (for example, the number of pages of text comprehended, number of questions asked in class, increased in test points earned);
(6) have students reread journal entries every three weeks and write a summary in the journal regarding their impressions;
(7) respond to student journals, but never grade them or circle misspelled words;
(8) help students go beyond simplistic non-productive responses by writing comments which help the student expand his/her metacognitive awareness.

Journal writing can be a valuable tool to facilitate students' metacognitive awareness. Occasionally, when journals are over-used, students will tire of the process. Put the journal aside, when first signs of boredom are clear. Reinstate their use when students request them. The journal process may not bring immediate results, but gradually students will learn to trust their inner voices. A powerful bond of self-communication develops, as they inch closer to Emerson's spirit of self-reliance.

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Appendix A

Journal Topics to Supplement Simpson's Diagnostic Model

I. Characteristics of the Task
   - A. What do I need to be able to do succeed in this class?
   - B. What kinds of tests will I have to take in this class?
   - C. Why did I do poorly on the last test?
   - D. What do I need to do differently on the next test?

II. Learning Strategies Employed
   - A. How do I usually read a chapter when I know I am going to be tested?
   - B. How and when do I use such techniques as underlining, notetaking or writing marginal notes?
   - C. How do I know I am ready to take a test?

III. Characteristics of the Test
   - A. What are the important features of this text?
   - B. How is each chapter organized?
   - C. How has this author organized his/her material? Am I aware of particular organizational patterns such as simple-listing, comparison-contrast, cause-effect, problem-solution, time-order?

IV. Characteristics of the Learner
   - A. What do I already know about this subject?
   - B. What are some of the things I would like to learn in this class?
   - C. Am I having any difficulty with the words in this text? Which ones?
   - D. Can I summarize a paragraph from the text? How did I go about doing this?

TEACHING THE WRITING PROCESS

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For many years, curricular research, experience, intuition, and myth have been the basis for our decisions about the teaching of writing. In recent years -- little more than the last decade -- researchers in composition have turned their attention to exploring the nature of the writing process itself. These researchers have studied the composing habits of writers of varying ages and levels of competence. They have closely observed writers at work and have analyzed a variety of materials -- transcripts, videotapes, and texts to try to determine what kinds of decisions writers make and why they -- make them. This new interest in and attention to the *process* by which writers compose can provide us with better information about what we as instructors, counselors, and tutors can do to help students write more effectively. I introduce here some results of recent research on composing, results which may help us work more successfully with unskilled writers, and I also mention sources of further information on research and instructional strategies.

Some Things We Now Know About Composing Processes

Recent research indicates that writing is a creative, problem-solving process -- for *all* writers (Cooper and Odell, 1978; Flower and Hayes, 1980, 1981). But the creative and rhetorical problems that skilled and unskilled writers set themselves appear to differ, as do the strategies they use to solve these problems (Birnbaum, 1982; Bridwell, 1980; Faigley and Witte, 1981; Perl, 1980; Pianko, 1979; Rose, 1984; Sommers, 1980; Stallard, 1974). Good writers apparently "complicate" the problems they set themselves when writing: they intend to *discover* their meaning as they write; they plan to alter that newly discovered meaning in the light of subsequent developments in their texts -- in the light of what they learn about subject and presentation as they think and write. Poor writers seem to "simplify" the problems they set themselves when writing: they expect to record what they *already know* and to concentrate on transcribing this known information as correctly as possible. Good writers frequently pause to reread their texts, verifying how they have fulfilled and can further fulfill larger rhetorical goals and the needs of their readers. In comparison, unskilled writers seldom reread their texts, seldom look at them to analyze the problems the text might present to a reader, seldom develop and refer to larger rhetorical plans -- they seem primarily to concentrate on planning subsequent text. Good writers first revise primarily to discover and develop their meaning, then subsequently to focus on correctness and precision; poor writers first and last revise primarily for correctness and better choice of words.

What this research suggests to us is that effective and ineffective writers actually engage in different kinds of writing processes: effective writers are engaged in analyzing their purposes, audience, and subject matter, in exploring what their ideas may be or may come to be; ineffective writers are engaged in transcribing known ideas, focusing on doing so correctly. As they compose, poor writers are very aware -- even excessively aware -- of the need for correct grammar, usage, and mechanics. Lack of concern is not the basis for their lack of success.

Complicating Our Instructional Picture

Recent studies on the composing process suggest that good writers communicate with themselves to discover and develop meaning, and plan to communicate with others to present and explain that meaning. Good writers view writing as a communication situation. Poor writers do not. Therefore, our typical attempts to help unskilled writers master "the basics" of writing conventional rules and organizational methods -- may, in fact, make their -- writing task much more difficult. How? By focusing their attention on solving surface problems rather than on essential ones.

We are allowing students to focus on the surface of their writing when we encourage them to tell us what we and they already know (and so obscure the role of discovery in the writing process), when we encourage them to believe that they should know and even outline their ideas before they write (rather than as they write and after they discover new ideas about the subject), when we encourage them to focus on correctness rather than communication and meaning (fostering their misconceptions about how and why good writers do what they do), when we mark papers but subsequently let them go unrevised (never providing the opportunity for growth in developing meaning and precision). Good writers tend to overcome the limitations of such methods as they complicate their rhetorical questions and answers, as they focus on developing meaning. But less skilled writers don't provide their own compensation. In fact, our methods suggest that we expect unskilled writers to produce effectively written texts without engaging in a rich, meaningful, exploratory process. Good writers don't write that way. How can we expect poor writers to do so?

To assume that less successful writers *first* or *primarily* need to become correct in their writing -- that until mastery, emphasis on "the basics" should come before emphasis on how to find and develop one's meaning -- is a popular stance. Surface problems are prevalent in the papers both of basic writers and many better students, and are often annoyingly obvious to readers. Certainly their errors influence both our impression of such writers and of their attempts at precise expression.

But the salience of these errors shouldn't lead us to conclude that instruction should focus on errors either first or primarily. Why not? First, because to do so means to ask those who write poorly to improve and succeed under conditions that good writers don't even try: good writers don't write without understanding their purpose and audience, without attempting to develop their ideas beyond what they knew when they started their papers. Second, because focusing on issues of correctness is to emphasize something which has already been emphasized -- even over-emphasized -- to poor writers. This recent research on composing indicates rather clearly that poor writers are *already* trying to achieve correct usage *instead of* trying to develop meaningful text. Third, research also indicates that grammatical "basics" once "mastered" don't stay "mastered". When the intellectual going gets tough, when the audience becomes more academic or abstract, or the subject more difficult, the student's attention of course must focus on other concerns, and grammatical correctness suffers. We must be sure that we also help students master intellectual processes which will allow them to write on more complex topics -- and function as effective learners and citizens. We must remind ourselves and convince students that correcting one's prose is a *necessary* but *final* step in composing, not the essence of writing.

Ineffective writers have many other vitally important things to learn about effective writing. Poor writers must learn how to exploit their own writing processes -- how to use the writing process itself as a way to probe, analyze, discover, and develop ideas. To do this, they need to understand both the nature of the writing process and effective ways of thinking and talking about their writing activities. They also need to know effective strategies to use while writing: how to set up their writing problems to be personally significant and absorbing, how to judge audience and purpose, how to develop sample structures for various types of texts, how to analyze their subjects critically, how to discover and develop their ideas, how to consider their own texts with a reader's eye. If our goal is to develop effective writers, these too are "basics."

Some Instructional Strategies

Learning how to think and talk about composing. An unskilled student's picture of the writing process: one writes a paper by first deciding what to say and then transcribing one's thoughts, keeping an eye out for grammatical and mechanical errors; one then tries to make the paper "flow" by replacing some words with synonyms that seem more appropriate. Generally the procedure is easier -- not so painful -- when one is "inspired," so that thoughts come fluently. This is approximately the procedure followed by many poor writers. But to think and talk about writing as a process of making meaning rather than transcribing it is an important first step toward behaving like an effective writer. We, therefore, need to help students learn to think of the writing process as a creative and flexible development of meaning.

Learning about writing researchers' views of composing. College students can benefit from hearing about researchers' current conceptions of the writing process, particularly those emphasizing openness, discovery, problem-solving, and revision. Students need to be aware that writing researchers consider writing as a mode of learning (Emig, 1977), not just a reflection of what one already knows. According to James Britton, "Writing may be the act of perceiving the shape of experience -- not the evidence that it has been perceived" (quoted in Dixon, 1967). Teachers might prepare for discussing these views by reading Cooper and Odell, *Research on Composing: Points of Departure* (1978); Emig, *The Composing Processes of Twelfth Graders* (1971); and Lindemann, *A Rhetoric for Writing Teachers* (1982).

Learning about writers' views of composing. Publishing writers' accounts of their composing can give us a basis for guiding students to think about and describe their composing. We need to help students see that professional writers emphasize discovery, growth of ideas, and revision. They monitor their writing processes and use rituals and idiosyncratic strategies to foster self-discipline and development of ideas. There are numerous books by writers on the writing process, including journals such as that of Virginia Woolf (1954), or books of interviews such as the *Paris Review* series, *Writers at Work* (for example, Cowley, 1959; Brooks, 1963); or Packard's *The Craft of Poetry: Craft Interviews from the New York Quarterly* (1974).

Learning about their own writing processes. Ann Berthoff notes that "the more you can learn about what goes on when you compose, the more you will learn about how to compose." By studying their own writing processes, students come to see how they function as writers -- what they may do to encourage or truncate their writing processes, develop or limit their ideas, detect or overlook errors and problems. As they begin to study how they write, students may criticize themselves for not being more organized and "efficient"; it's important, therefore, to emphasize the flexible, apparently disorganized, processes which both researchers and writers both have found in effective composing. Poor writers need to give themselves the opportunity to explore more, not less, as they write. Strategies for helping students with writing self-analyses may be found in sources such as Coe and Gutierrez, "Using Problem-Solving Procedures to Help Students With Writing Problems" (1981), and Brannon, Knight, and Neverow-Turk, *Writers Writing* (1982).

Learning Effective Writing Strategies

Considering the rhetorical problem. Since we know that less skilled writers tend to write without a focus on their audience and purpose, we need to help them understand that writing is a communication situation, that readers have characteristics and needs, that writers have goals for their communication and a number of possible strategies for achieving those goals. If we can, we should arrange assignments to reflect actual communication situations. We should help students analyze the needs of audiences in general and of the specific readers of their own papers. (Even teachers reading papers on unfamiliar topics have needs as readers!) We should ask students to write for a variety of audiences, communication situations, and purposes. In introducing assignments and discussing revision, we should model the behavior which we would like students to adopt, so they have a specific sense of how they can consider and accommodate their writing to their assignments.

Using prewriting for exploring and developing ideas. Sabina Thorne Johnson points out:

> ...we cannot afford to overlook any means by which to convince students that seeking a thesis is not a simple matter, like putting a quarter in a candy machine -- if you don't get the candy you kick the machine -- but is, through prewriting techniques, more like putting many coins in a slot machine -- put in enough, and you will eventually hit the jackpot. (1981, p. 237)

We need to help students learn to explore and play in the early stages of working on a paper, to "write before writing," as Donald Murray suggests (1978). Prewriting techniques can range from the freewriting promoted by Peter Elbow in *Writing Without Teachers* to the more formal heuristics of texts drawing upon classical rhetoric. Following prewriting procedures with the class as a whole or in a conference can help students see the "payoff" that can result.

Keeping themselves going as they write. Since more competent and more fluent writers tend to use flexible working rules rather than rigid ones, less skilled writers need to adopt similar working strategies. For example, fluent writers will say, "I'll just jot this down now and see if I can get out some ideas," or "I know that's not right, so I'll come back to change it later." We need to show less skilled students how to encourage themselves in such ways rather than engaging in premature editing.

Considering revision as reworking. Since we know that skilled writers make substantial revisions in their texts, we need to help less effective writers see the value of such large-scale revisions. And they need to see that most of the surface revising that they have been in the habit of doing earlier in their writing processes should take place during the final revision when they have developed and reworked meaning. To revise extensively requires commitment to presenting one's ideas most effectively and precisely. Providing examples of the revising of professional writers (such as found in facing pages of many of the *Paris Review* interviews,) and sharing drafts of one's own work with students may be helpful instructional strategies. A sense of how one can revise can be developed by working through students' papers in the classroom or in tutorial, modeling what kinds of questions the writer might appropriately ask (i.e. "Will my reader see why I had to bring in that point here?" or "Have I given enough background for a reader to understand the reasons for the conflict?").

Conclusion

Since recent research on composing makes clear that the process of writing is one of creative problem-solving, we need to teach unskilled writers to pose "complicated" problems like those of skilled writers. Unskilled writers need to move from a focus on the correctness of the emerging text to a consideration of larger rhetorical concerns. To teach unskilled writers to behave like skilled writers, we need to describe and model how skilled writers think and talk about their writing and how they engage themselves in the writing process.

Notes

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